THE

SOUTHERN AGRICULTURIST.

MARCH, 1838.

PART I.

EDITORIAL AND ORIGINAL.

Experiments on Corn, &c.

St. James', Goose Creek, 20th Feb. 1838.

Mr. Editor,—The following statements have been proven by the unerring guide of experiment. To make more corn with one half the work that is usually, or has been done, on old light sandy lands, and yet improve such a soil, I deem an important item with the planter, both in our district and elsewhere. I have ascertained that the less we stir such soils by culture, the more abundant will be the yield, and of course preserve the land from hard rains and evaporation by the sun. All such lands I lay out in rows five feet apart. In January, February and March, I list in with the hoe all the stubble and grass, making the list as small as possible. If by the 20th March, I have not done listing, I do the balance with the bedding plough. The corn is to be planted directly after the plough, on the same day. This will cause the corn to come up before the beds get grassy. Four furrows are necessary, where it has not been listed with the hoe, and where it has, two; one on each side is sufficient. The corn must be planted on the bed in holes or chops with the hoe, about three inches deep, and not less than three nor more than four feet apart, and thinned out when brought to a stand, to one stalk. I would recommend an abundance of seed put in, so as to insure a stand, as I have never succeeded either in replanting or transplanting. This done, I let it stand alone until about

the first of May, at which time the warm season sets in, and the corn takes a vigorous start to grow, by which time my lists or beds are covered with grass and weed. I then take strong horses or mules, and the stoutest men, to plough with; the best turning or bedding ploughs, and fallow up the middles, or allies. The first furrow must lap their dirt on the list. To prevent the corn from being covered and broken down by the dirt from the plough, a negro boy or girl must accompany the ploughman, with a paddle 8 or 10 inches wide from the ground, for about 15 inches, and then taper up into a long handle which must be placed before the plough at the side of the hill, so as to screen the corn from the fall of heavy clods of dirt. By giving the paddle a little twist when a large quantity of dirt comes to it, you will have met the dirt on the bed, and mold your corn, so as one half or more of the hoeing is avoided. I have in many instances molded none at all, only with the paddle. The corn must now be brought to a stand of one stalk—I then let it alone until the corn is so high as barely to admit the swingletree to pass over it, without breaking it; say knee high; then with the winged or sweep plough, run one furrow each side, and be sure and meet the dirt, and not make the furrow deep—one plough will go over four acres per day. This done, let it alone until you can perceive the buds for shooting and tasseling—then take the turning plough, and break up the middle of the rows, by throwing the dirt as near as possible to the corn, and not plough deep the first furrow, but gradually deeper and deeper, until you have done the row, when you will have a tolerably fair bed. Then if you have the hands and time, dress up this bed, which will be very light.

This lays by our corn (as we term it here.) By this mode of culture, I have succeeded in making a good corn crop, in either a wet or dry season. The roots of the corn are preserved by not cross ploughing; moisture in dry weather is retained in the list, and in heavy, rainy weather, your corn will always be found on a bed, and the water will soon run off. This mode of culture has so improved my lands, by resting every other year, that I now make one-third more than ten years ago. Strip the blades as soon as you see a ripening color appear, but do not turn down the stalks until the corn is nearly hard.

In stiff clay, or bottom lands, I have always found it yield most, by ploughing it up as early in the fall as possible, not later than Christmas. All such land should be ploughed one inch deeper in every four or five years, so as to throw up fresh soil, and by freezing in the frost and snow during January, February and March, you not only pulverize and mellow the land, but destroy the germs of insects, that almost always destroy the first planting in such lands, or which is worse, gives a broken stand. The seed corn in such land should be drilled, in order to insure a stand, and not planted until from the 20th April to 20th of May.

If there should be near at hand any broken oak lands uncleared, where the leaves can be gathered in abundance, rake them deep, so as to get the black mold of the ground intermixed with them; put a sufficient quantity in the alleys of the rows in the sandy land, and list them in. By doing this, you will be abundantly paid for your labor, and eventually make your lands as strong or stronger, than when new. Should any planter make an experiment as above stated, I would be thankful to hear the result, as I believe this is a cheaper way of getting lands, than going to the "far West."

Respectfully,

ISAAC BRADWELL, Jr.

Corn—Its importance to our Agricultural Interest.

Georgia, February, 1838.

Mr. Editor,—I know of no crop which is more important to our agricultural interest, than our corn crop. It has been well observed by you, Mr. Editor, in an article of great value, which you published on Bread-stuffs last year, that no nation can be rich, which has to import these articles. One thing I am certain of, that no planter can be prosperous or thriving, who has to purchase his corn. I speak from experience when I say so, and what I write may be considered *facts*, which my own example can verify. Some years ago, I got the notion into my head, from a speculating neighbor of mine, that I could make more money by planting a larger number of acres of cotton to the hand, and a less number of corn, than I

had usually done. My friend was anxious to convince me, and actually did so. We both went over and over the calculation, and never did Major Jack Downing calculate closer than we did. After a while, we made it appear beyond all doubt, that by selling cotton at an enormous price, and buying corn at a reduced one, that we could make a fortune in a much more rapid way, than after the old common one—and so we could, if our premises had been good. But unfortunately for our schemes, we entirely forgot to consider, that when all took to raising cotton, and few to raising corn, that the few would sell their corn for what they pleased, while we would have our cotton to rot on hand. So it turned out. We made a good crop of cotton, 'tis true, and even got good prices for it: but just as the most busy season came on, we were obliged to send to the city for provisions for our negroes and cattle. Not having raised any corn, we raised no fodder—our horses became poor for want of food; one or two of them died, and the rest became such fair candidates for the buzzards, that it took six times a greater quantity of corn to fatten them, than if all the while they had received their moderate allowance. When the corn from the city arrived, it did not hold out the full measure. Besides, it was the soft North-Carolina corn, which, when ground and sifted, did not yield near as much as our native flint. The negroes complained, that they could not work, and eat it. It was not substantial enough. I examined it myself, and found that what they complained of, was indeed correct.

Another item I must mention. When I ordered the corn to the plantation, money was scarce, my cotton had not been sold, and I gave a note for the amount of the corn. The corn merchant wanted his money, my note was put in Bank, and when pay day came round, not understanding much about banking, I was frightened into selling a portion of my cotton at a sacrifice, to meet the demand.

All of these things taught me my folly, and I resolved from this never to calculate things by figures, on a slate, when I had it in my power to go and measure the thing itself.

Enough for me to say, that the year I bought corn, was one of real heart-felt trouble to me. Starvation presented itself on all sides, and in my dreams, Famine seemed

stalking all around. I resolved not to be placed in a similar situation another year. I determined, ever after to raise my own corn, and my mode of doing it, I shall now detail for the benefit of your numerous readers, whom I hope are all punctual subscribers.*

During my long life as a planter, I have planted in different parts of our State, from the mountains to the seaboard. It may be laid down as a rule, that in whatsoever portion of it you plant corn, you must manure for it, if you would have it good and productive. Good draining, good hoeing, and good seed, are all indispensable; but without good manuring, all the rest will go as nothing in the general reckoning. I shall therefore begin with manuring.

Almost any substance that will rot, itself, or cause rot in other substances, in the ground, is a good manure for corn. I cannot tell the chemical reason for this, but I vouch it to be a fact, which I myself know, and which I have heard chemists aver.

Every planter knows, that stable, or cow-pen manure, and also cotton seed, are good for corn; but not every planter knows, that he has on and around his plantation, a thousand other things, that will serve as an excellent substitute. Pine trash, and all kinds of leaves, marsh, rushes, mud, &c., all serve their purposes. Which of these should be selected, depends in a great measure upon their location. The first named manures are always the best; but the others have been known to serve a good purpose, when applied in sufficient quantities. Leaves, and all kinds of litter, I have used for corn. My general mode of applying them, is under the first listing. In this way they will rot early in the season, so as to supply the corn with all their enriching qualities. But here it is well to consider what kind of land you are going to plant. If the land be low and wet, I always place my manure, of whatever kind, under the first listing, and with the hoe or plough, I haul up a good sized ridge or bed. Upon this I plant my corn, at the distance of five feet apart each way. In each chop, or hill as it is termed, I leave two plants, and between each distance I plant peas.

* We wish we could give our friend any information, that would realize this hope.—Editor.

Much debating has been carried on, about planting corn *wide* and *near!* My experience has taught me, that however highly manured corn may be, that near planting will not answer in our climate. A close observation on near planting, has presented the following results.

With corn planted two feet apart, on ridges five feet apart, I generally found that I lost all my under blades; that my corn did not grow large; that it frequently heated and burned; and that the grain was never as weighty as that of corn planted farther apart. The notion, that a larger number of stalks with each one ear of corn, though small, will yield more than a smaller number, though large has seldom proved true with me. In a Northern climate, where the seasons are short and forcing, and where the nights are cool, corn may be planted thick; but I have never known the same results to turn out here.

Every planter is aware, that corn cannot live without air. A great part of its sustenance, is derived from this source. Observe as an instance, the corn which may happen to spring up, as a volunteer in a cotton field: it invariably, if any chance is given it, grows much larger than when planted along with other plants of its tribe. I have said, that my practice in low land, is to ridge high. I do this to pulverize the earth, and to give the young plant an opportunity of getting a soft and a warm bed to rest in, while in its tender state. This is of vast importance; and any one who has practiced it, will no doubt agree with me. On high lands, I use the plough in a great measure. Here also, it is of great importance, to have the earth well pulverized, for the same reasons given above. On a high piece of land, I have, three seasons running, made an excellent crop of corn, by following this mode; I ploughed up my land well, and then cross plouged it, at spaces or checks of five feet each way. In each check, I planted my corn; and immediately after planting it, I scattered over the seed, which had been slightly covered with earth, about one basket full of partly decomposed leaves, which had been gathered from the woods. The leaves were scattered, so as to cover a space around the checks of about four feet. By this means, the earth around the checks where the corn was planted, was warmed. The corn sprouted up early. It was kept moist, and protected from the sun, and one working at least was saved me, by the grass being kept down around

the corn. When the plants were about eighteen inches high, I commenced working the plough through the corn. I commenced in the centres of the spaces between each plant, and worked up to the plants both sides. By this means, the litter was effectually covered; it now afforded the corn an excellent manure, opened the earth around the plants to admit the moisture supplied by the night dews; and suffered the excess of rain to run off, which might happen to fall during the summer.

When I first put into operation this mode of planting, many of my neighbors laughed at it. They protested against it; and declared, as many still do, that, by turning in the litter, I would completely ruin my corn, by burning or heating it. But I did not; and the result has been, that for the last three years, my land, thus treated, has been undergoing improvement. This process, it must be borne in mind, was on a high, dry, and sandy soil.

On low ground, I deem it absolutely essential to make the ridges high in the first instance. Many of the reasons for this, I have already given—but an important one is, that, by having the ridges high, the water is more easily let off. If the ridges are high, it need not be feared that the corn will require much hauling to keep it from blowing down. On a high bed, the roots will run deep, and if you keep the plants only cleared from grass, you must make a crop.

I feel, Mr. Editor, that I have been writing in a very desultory manner. I had much to say upon the cultivation of corn, but I find that I have not said one half that I had to say, and that half very imperfectly. Let me say, however, that if any one would raise good corn, he must attend to the following rules,

Plant no more cotton, corn, and potatoes, than will permit you to work them over at least once in two weeks. If oftener, the better.

If your land is poor, manure all that you do plant, or do not plant it at all. One acre well manured, will produce you more, than twice the quantity not manured at all.

Let every portion of your field have its working in rotation. Do not work about in patches, because one part might be more grassy than another. You will always find that where grass grows fast, that the land is rich, and will enable the plant to wait its turn.

Never regard one crop more than another. If any thing is worth planting, it is worth planting well.

If your land is high and dry, get your corn planted the first week in March. If low and wet, wait until April, or at all events until the land becomes warm.

Take this communication for what it is worth; and if I will not be intruding too much, you shall have its sequel for your next number.

HOMESPUN.

It is with great pleasure that we are enabled to present our readers with the foregoing articles on corn planting. They come in quite appositely at the present time; and we trust our readers may profit by them. The sequel promised will be in time, and will be welcome. The last article is from the pen of one of our most extensive factors; the reflections contained in the article may consequently be relied upon as supported by facts, which cannot be disputed. We hope the articles may be diligently read, and profitably received.—EDITOR.

Dear Sir,—I beg leave to offer a few remarks in your Journal, which have suggested themselves to my mind, upon the neglect of the corn and provision crops in South Carolina, and I may properly add, the cotton growing States generally.

The all absorbing and insatiable desire of money making, that has pervaded so large a portion of the civilized world for a few years past, with the terrible explosion and convulsion in every branch of trade, as the consequence, in the year just past, is too familiar with even the most obscure, for me here to offer any comment. That this convulsion has fallen upon our State, and the cotton sections of our country, with much greater severity than is commonly admitted, is too obvious (to my view of the case to admit of a doubt,) in the great depreciation in the price of cotton, real estate, &c. The price at which cotton has ranged for the last few years, has been the means of reducing the cultivation of provisions to a much less quantity, than the actual necessities of the country require. It is true that the tempting prices of 18 and 20

cts. per lb. for short, and 50 to 90 cts. for long cotton, was calculated to lead the most prudent planter astray. But that day has past—and I would earnestly hope, having taught this salutary lesson to many who were caught with their crops on hand, that it is decidedly more to the interest and substantial independence of the farmer, to have well filled corn cribs, than to have a crop or two of cotton in his factor's hands, that cannot be sold for want of purchasers, and even ships to take it away.

I have heard this remark several times repeated by cotton planters—we must endeavor to make up in quantity what we have lost in price. I would caution such not to neglect their provision crop, and to bear in mind that the present production of cotton is fully adequate to the consumption, and that cotton is not money, until sold and paid for in current bills at least.

It is here worthy of notice, that a large grain crop in Europe increases materially the consumption of cotton, and cotton goods, by lessening the price of labor, &c.; and that the same result will apply to this country, is not to be questioned.

The scarcity of provisions in our city, at a particular period of last summer, was much greater than generally known. The stock of corn was reduced to a few hundred bushels of inferior quality, a very small supply of flour, and but a scanty supply of rice; and in Savannah, about the same time, if my information was not exaggerated, there was not a bushel of corn to be purchased. At a period like this, let us suppose our country becoming involved in a war with a maritime power, and our coast trade interrupted. In this case, Mr. Editor, we should be placed, and I fear many of your agricultural readers, in no enviable situation.

Much more could be said on this subject, if my time would permit; but I shall content myself by observing, that this vast agricultural country has been for the last year or two, and is now importing largely, of foreign wheat, oats, hay, &c.; and that the corn trade in Charleston, at present, is nothing more nor less than a *monopoly;* confined, I may say almost exclusively, to two houses; not to mention the loss sustained in measurement, from 7 to 10 per cent., getting a much inferior quality to that grown on our own soil, and that this is the proper season

to commence a reform, by planting more extensively of all kinds of provision.

I subscribe myself,

A FACTOR.

Charleston, February 27, 1838.

On Nut Grass.

It is painful to observe the extent to which much of our high land among the sea islands, and indeed throughout the tide water region, is infested by nut grass. It fixes itself upon those choice warm spots, best adapted to the culture of sea island cotton; and as little of that description of soil remains to be cleared, it behooves the planter, who is not bent on emigration, to see that he is not driven from that which he already cultivates, by the spread of this formidable enemy to his industry. It prevails most among the oldest settlements, and gains year by year on the arable surface, so as materially to contract the operations of the planter. It is time he should be awake to the injury he now suffers, and is still to suffer, from the spread of this pernicious grass; and should apply himself to eradicate it, where it is possible, and to circumscribe its ravages, where eradication is hopeless.

Of the two grasses which most deform our plantations, the joint grass, and the nut grass—the former is far more under the control of the agriculturist. The joint grass, when ploughed or hoed up in winter, its roots exposed to the action of frosts, then gathered into heaps, dried and burnt, offers little resistance to the cotton crop that succeeds it, in the spring; and the same operation repeated on the following winter, reduces its strength still more; so that a perseverance in this treatment, will finally exterminate it. The writer of this article has destroyed it utterly in a garden, by planting turnips in winter, and corn in summer; first digging up the roots, and burning as above. But no such treatment will answer for nut grass. Cultivate it in summer conjointly with cotton; it proves too strong for the cotton, and will overcome it—cultivate it through the winter; it will rise in the spring with new vigor, from the improved preparation of the

land. For cotton and root potatoes, it proves entirely an over-match. Slips, corn and peas, from the rapidity of their growth, get ahead of it, and will give a moderate yield—but not without much additional work. It is clearly our interest then, as I have already said, to exterminate this grass, where it is possible, and where it is not, to arrest its farther spread.

The practice of suffering hogs to be raised on our plantations, is one unfailing means of propagating this evil; and doubtless it results from the conviction of this fact, that so many planters refuse to suffer hogs to range at large over their land. Yet these same planters often allow a driver, or some other favorite negro, as a reward for good conduct, to raise a hog or two, *in a pen!* The indulgence is certain to be abused: the example spreads —they who can and they who cannot honestly maintain these voracious animals, keep them removed from sight in some unfrequented nook, and the moment master's back is turned, down go the barriers, and out swarms the most hungry and unscrupulous set of propagandists, that ever defaced the surface of the earth!

Another productive cause of disseminating this evil, is found in the system of manuring, which, since the exhaustion of our virgin soils, we are compelled to adopt to restore them to their wonted fertility. Too little care has been taken to exclude from the compost pen, all sweepings from grounds even partially affected by these hurtful grasses. A few nuts spread out in the arable lands, with the heaps of manure, are sufficient in a few years, to seed the entire field: and to this must we ascribe the alarming spread of this grass, over our manured lands. The utmost vigilance of the proprietor is here required—his eye alone will suffice—it is his interest only which extends *beyond the year*—and the habitual indifference of the negro to any thing beyond immediate results, makes him an unsafe reliance in this particular.

When the land has been once seeded with nut grass, by either of the modes above described, it is necessarily extended by cultivation. The hoe spreads it, and the plough scatters it far and wide. Each nut detached from the bed where it grew, and deposited elsewhere, becomes in turn a nursery bed. You are reduced to the unpleasant dilemma of abandoning your field, or cultivating it under the conviction, that the very labor you are expen-

ding on it for a present crop, is destroying it for future productiveness. I have myself attempted to check the progress of this grass, by digging a trench round the spots affected by it. If the grass is but thinly sown within the entrenched part, it is still cultivated with the *hoe*, (the plough is here prohibited, of course) but if the grass be thick, the ground within the trench is left uncultivated. Though this prevents you from throwing away your labor on land, that you know will be unproductive, it is still an unsightly practice, and weeds spring up in the neglected spaces, so as to choke the surrounding culture. In revolving plans for the extirpation of this pernicious grass, various schemes have suggested themselves. I pass by of course the common mode adopted in gardens, (of digging up the whole surface of the land with the spade, and passing it through a strainer, which collects the nuts) as too laborious for plantation use. As a substitute for this, I recommend a mode less costly, and I apprehend equally efficacious. It is first to trench the spot infested, then to level, and spread a coating of marsh mud over the whole surface enclosed. This coating should be four inches thick, and the interstices filled up with fresh mud, wherever the earth can be seen. In their inability to push their shoots to the surface, through the coverings of mud, the nuts will thus be destroyed. Another suggestion is, to cultivate the infested spots every two or three days throughout the summer; on the calculation, that the perpetual exhaustion occasioned to the plant, by the necessity of shooting its spear to the atmosphere, will destroy it. But this plan will require laborers to be set aside exclusively for the work: the exigencies of the plantation will interfere with the experiment, if attempted with the regular field force.

Another suggestion is, to have the young shoots of the Acacia, or Savannah Locust, thickly set, or the stones of the Chickasaw Plumb, thickly sown, on the infested spot. These plants go for monopoly; and all grasses are observed quickly to perish beneath their shade. The disadvantage of this plan is, that it requires *time*, and that the portion of the field contiguous to these growing nurseries, will suffer from their neighborhood.

The last suggestion I would offer, as a sort of desperate remedy for desperate cases, where the land is already too much infested to be put profitably into culture, is, *to sow*

such spots with joint grass—and having given it time to strangle its adversary, then to attack and destroy it in its turn. This is bold practice I confess—but analogous to that of medical gentlemen, who often substitute one disease for another, and thus drive off a fever by a salivation. The recommendation is too original not to provoke a smile—and most of your regular bred planters will set it down as legitimately derived from Laputa. I shall be content, Mr. Editor, if, after having enjoyed their laugh, they will write down for you, and me, and the suffering public, some better remedy against this wide spreading evil, than any here suggested by

BEAUFORT.

On the Tanyah.

Mr. Editor,—I have seen and read much on the culture of roots, but I have never observed a notice of the Tanyah. This is the Indian name for this fine vegetable, so little known, though indigenous to our country; to the Southern part of it at least. It is said by some, there are two kinds, the pink and the blue; but this is denied by others, who assert the difference in color and firmness, is occasioned by pealing before boiling. Whether this be so or not, I will not undertake to say, but I incline to that opinion. Certain it is, the blue is the best flavored, and much more farinaceous than the pink. Like the beet, the tanyah may bleed if its covering be removed before boiling, and so become of a dull pinkish color, more pulpy, and almost insipid to my taste. I will admit, however, I have heard the preference given to the pink. It is matter of great surprise, they are not cultivated as a provision crop by our planters, and by our farmers and gardeners, for the table. It cannot be doubted, they would improve by culture, and if produced in sufficient quantity, would be very generally substituted for the Irish potato—the Northern potato would disappear from our markets.

The tanyah is a wholesome esculent, and I know of no other which can be produced at so little cost. There is scarcely a farm, however small, that has not a low spot adapted to the cultivation of the tanyah—yet it is neglect-

ed, and our planters and farmers voluntarily tax themselves for a substitute; the Northern potato, a root, as good in comparison with the tanyah, as skimmed milk is to cream cheese. Just about.

I am anxious to see plenty of tanyahs, for I am fond of them. They are an excellent substitute for the West India Yam, and on the whole, I don't know but what they are entitled to the preference. They are propagated as potatoes are, from eyes or buds, and when planted, want hardly more than mere permission to grow. They will grow where no other edible root will; and independently of the value as provisions, the tanyah yields a vast cropping of foliage; thus producing for the planter a large quantity of vegetable manure, which, but for growing this root, would remain in the bog "till chaos come again." I do not think it is hazarding too much to say, no root produces a heavier and more abundant foliage. Being better protected by its hard, rough coat, from external injury, it will keep better and longer than either the Sweet or the Irish potato, and on that account demands the favorable consideration of the planter.

The blue tanyah is a stronger food than the potato, being something between it, and corn. The value of this plant is not understood. It is even a good defence for river banks against the action of winds and tides, but I do not recommend it for that purpose; for if the passengers up and down the river should happen to like the dish as well as I do, they would help themselves, and by opening the ground, injure the margin and banks, the plants were set to defend. But for this objection, a river margin covered with the tanyah, would be the best defence for the bank, which the planter could devise.

What may be the value of this root, as food for stock, it is impossible for me to say, as it has never been my good fortune to know a large crop raised, or to hear of any having been fed out to cattle; but I cannot imagine a reason why it should not be excellent—nor why the tops should not be as good provender as the blades of corn.

Improve this plant by culture—throw better supplies into market, and you will oblige

A TANYAH EATER.

Importation of East India Rice.

In our number for February, we alluded to the possibility of our markets being, at no very distant day, supplied in part (perhaps wholly) with rice from countries, lying South of the United States. Many doubtless thought the idea preposterous; and while none would deny the *possibility*, few would admit the probability, of foreign rice competing successfully, in our own markets, with that produced from our own soil, and cleaned at our own mills. But lo! What was hypothesis, is now fact—we regret to say, incontrovertible reality. The introduction of rice into this country, was an event, an *era*, in the history of this part of the United States, inferior in importance only to the revolution. We do not except the introduction of *Cotton*, (now our greatest staple) because rice established among us the institution of slavery—and to slavery, we are indebted for the wealth and consideration we derive from the culture of cotton. In our Sketch of the Agricultural History of this State, we have shown *seed rice* was first introduced by a vessel from Madagascar, which stress of weather forced into a friendly port—that the *cook* presented it to Landgrave Smith, by whom it was planted in the lower part of his garden, now forming part of Longitude Lane. It grew luxuriantly, and the little crop was distributed by the Landgrave among his friends. This is the history of the introduction of rice, into the United States. We will not follow up its culture farther. We advert to the introduction of this grain now, that we may record the singular circumstance, of an arrival of foreign cleaned rice in this port, to test the market—and what is yet more remarkable, it has come from the same quarter of the world, from whence our seed was obtained. If we mistake not, this adventure of East India rice, to a market in the United States, will prove an event of considerable importance, in the future history of rice in these States. Under this conviction, we give the facts connected with this importation of foreign rice, as accurately as possible. We learn it was shipped first from Manilla to New-York, as an experiment. It was imported in bags of about 75 lbs. English, and is a good common article—better than our small, but not so good as our middling rice. Six thousand of these bags were shipped to New-York, and

to test its quality and value, in the markets of a rice producing State, three hundred bags were shipped on board the brig Dimon, consigned to Mr. James Chapman, of this city, who made sale of it at $2.87½ per 100 lbs.

Our friends, the rice planters, will be astonished, perhaps alarmed, when we state $2 50 per 100 lbs. of this this rice, will pay all expenses from the East Indies, and a commission here; that it is a good remittance at that price.

When our article was put to press, we dreamed not of even the possibility, of rice coming from the East Indies into our market; much less of its being brought here at a price, less than the current value of our own. We did indeed think South American rice might, under certain contingencies, affect the value of our's, even by competition in our own ports—but that rice could be imported from any part of the North Pacific Ocean, into any port of the United States, (and without the additional charges of transportation coastwise, &c.,) to compete advantageously with our own production, we freely confess we should have classed among "the things impossible."

This adventure reminds us of the rough, but well merited compliment, paid Northern enterprise, by Petion, (Pe-té-ong) some years since President of Hayti; "Hang a bag of coffee in h—l, and a Yankee will fetch it."

As citizens of a rice growing country, we could wish this shipment of rice had resulted in a total loss; for what has been once successfully done, will be an incitement to similar undertakings. The *low price* at which this Manilla rice must have been purchased, proves with how little justice *we* complain (as we always do) of "hard times," and that our wants are mainly artificial. Let us thank heaven we are not as other men are; that we are not Manillans. They receive their own price for grain; it is shipped, traverses the ocean at least 15,000 miles before it reaches New-York; it is re-shipped to Charleston, burthened with all the charges from the time the seed was sown, and is sold at a profit. What remains for the producer? Who would be a Manillan?

We do not like this experiment; but we trust it will tend, with the increased growth of cotton, in other parts of the world, to instruct and show us, our real position. Without necessarily planting less, we may farm and econ-

omize more. Will not farming pay a better interest than planting? Let the farmers answer.

Since penning the above, we have learned another parcel of East India Rice, sufficient to fill eighty barrels, has been received by Mr. Jonathan Lucas, and sold at $3.25 per 100 lbs. We understand the quality is somewhat better than that, upon which we have already made some remarks. Considering this Journal, a proper place of record, for any matter, concerning the agricultural interest, and prospects of this section of the Union, we trust no other apology to the gentlemen named in this article, is necessary, for having introduced them to the public.

On the proper distance for Planting Corn.

Mulberry Grove P. O., Harris County, Ga., Jan. 21, 1838.

Mr. Editor,—Having seen a piece published in the *American Weekly Messenger* of the 26th of April, 1837, by one who styles himself "SIX AND TWO," on the proper distance for planting corn—I wish you would publish it in your next Agriculturist, as follows:

"On the Eastern shore of Virginia, (that most prosperous of all corn countries) I am told it is the habit of the planters to plant their corn four feet each way, a single stalk at a place. When I first commenced farming, my impression was, that the most economical method of cultivating corn, all things considered, was to plant so as to plough it both ways, and thereby dispense with hoe work. I tried it. Experience and reason have changed my opinion. In 1835, I cultivated a light sandy field in corn, (much such land as that on the Eastern shore, but not so good) part of it I planted 5 by 3, and part (the best land) 4 by 4 feet—both were ploughed both ways, and received the same culture: the cut 4 by 4 was favored rather the most, because it seemed to suffer.

"The result was, the corn 4 by 4 suffered for distance, while the 5 by 3 had a plenty of room, and was a good crop.

"This set me to thinking—and the result of my cogitations amounted to the conclusion, that corn must have a plenty of distance one way; else why was the corn 4

by 4 too thick, while the corn 5 by 3 had distance enough—when there were more stalks on an acre of the latter, than on one of the former—which reminds me that many persons, and they intelligent and educated farmers too, think—no, conclude without thinking—that because 4 and 4, and 5 and 3, and 5½ and 2½, 6 and 2, and so on, when severally added, make 8—that therefore there are the same number of stalks on an acre planted in either way.

"This you know is not the fact—on the contrary, the number of stalks is inversely as the product of the two numbers. For instance, the number of stalks on an acre, 4 by 4, is to the number on an acre 6 by 2, as 12 is to 16. The reason is this—more land can be contained in a square, than in any other rectangular figure; consequently, there are fewer squares in an acre, than there are of any other rectangular figure; so also, the nearer these figures approach to a square, or the farther they are removed from one, the less or the greater is their number.*

"This important consideration, together with the fact above stated, resolved me to cultivate my corn this year on a different plan.

"I accordingly planted it 5½ feet one way, and 1½ to 2½ feet the other, according to the quality of the land. My corn was as good and better worked in this way, and I cultivated it with little trouble. By using an X wooden drag twice in a row, about a week after each ploughing; first, when the grass begins to spring, you leave your land as level, and keep it as clean as you can, by cultivating it in any other way, hoe or no hoe. Moreover, the greater the distance one way, the less your corn will be ridged by ploughing, and therefore the more dirt you can throw immediately around it without injury.

"If I am wrong in any of my deductions, I hope you or some experienced corn planter will put me right: for until experience or reason changes my views, I will plant my land 6 by 2, which, according to old style, would be

* "The proper and simple rule for comparing spaces, or distance of plants, is to multiply the length and breadth together, and thus ascertain the number of square feet given to each plant or station. Thus 4 by 4 makes 16 square feet, and 6 by 2, 12 feet only. Yet simple and obvious as is this truth, it is both true and surprising, (as stated by your correspondent) that many old and experienced corn planters still compare the spaces afforded by these and other different distances, by adding, instead of multiplying, the length and breadth together. SIX AND TWO."

planted 4 by 4. There are 1-4 more stalks on an acre of the former, than on one of the latter. I contend the last is the thickest. In the mean time, I am yours, &c.

SIX AND TWO."

The following I copy from the Newburyport Herald.

"*Important to Whitesmiths.*—It is perhaps not generally known amongst mechanics, that Salt, called Prussiate of Potash, which may be had of all the Chemists, is now much used, in case hardening. The process is easy, and saves a great length of time. The method is, to powder the salt, and sprinkle it upon the iron when in a state of redness; it will be found to run like oil, and when plunged into cold water, will be found to be as hard, and even harder, than iron case-hardened in the usual way."

If you think the foregoing extracts are worthy of a place in the next Agriculturist, you can put them in, as corn-planting time will soon be here.

P. S.—I enclosed $10 to you for myself and Wm. G. Walker, some time back, for the Southern Agriculturist, for 1838, which I hope you have received.

I am yours, with respect,

VIRGIL HOMER WALKER.

On Stock, Corn, &c.

St. Paul's, Feb. 21, 1838.

Mr. Editor,—When a boy in my teens, I was accustomed to see, and hear a great deal about, Cheraw bacon, and Cheraw corn, but now I hear nothing of either, and if a certain number of acres had not been incorporated, and styled the Town of Cheraw, the name would probably be unknown among the rising generation. No better bacon was ever eaten, no more wholesome corn ever grew, than "the Cheraws" used to send to your market. This name belonged to a district of country beginning about Lynch's Creek, and extending interiorly, a distance not well defined, or understood by the Indians themselves. It was a fine grain country, and afforded an excellent range for stock. In these particulars, the country must remain unchanged, and the same advantages, can be

justly claimed by other sections of our State. But they are neglected, or not so well improved as formerly I judge, or we should not be almost totally dependent upon other States, for our corn and bacon. Surely our lands produce mast as formerly, when we raised our own hogs, and the soil which will produce cotton, will yield corn. But it seems every thing must give place to cotton, as if that plant, by its magical influence, could convert every thing into gold; or gold into corn, hogs, horses, and a list of etceteras, as long as *Calvin Edson*, at its own will and pleasure. Pity it is, that it cannot, since we seem to consider it meat, drink, washing and lodging.

Now, Mr. Editor, it is my humble opinion, if cotton engaged less, and the raising of provisions and stock, more of our attention, our planters would be gainers, and the whole community the happier in consequence. What is the state of things at present? Cotton is a drug—very difficult to be taken on any terms. While the planter will be thankful if he can realize 8 to 10 cents, he is obliged to pay 100 to 125 for corn, and from 15 to 18 for bacon, and in the city, 20 to 25 cts. for fresh beef.

Most of the bacon sold in Charleston, is from the West, and slushy flab as it is, we are compelled to consume it. Now if we must eat mast fattened bacon, let us have it of our own raising, and keep our money at home. Every planter can fatten hogs as our Western friends do—allow them free range of the woods and swamps. Every one familiar with mast fattened bacon, must know far the greatest part of the Western bacon we consume, is of that description. Let proper attention be given to raising stock, and provisions, and if the planters send fewer bales of cotton to market, they will nevertheless have more dollars to "rub agin one another." Cotton bales do not increase in number, nor does the quality improve, by keeping, but stock does. If a planter, or farmer (as you may please to term him) choose to keep his stock for a better market, they will increase in weight if properly fed, and in number also, if not prevented—which is more than can be said in favor of that precious plant, cotton.

I am not opposed to planting cotton, but only to its engrossing so great a share of attention, as to prejudice other interests, which, rightly considered, are not less important to the planter, and the community at large. It is a reproach to us, that almost all our cured meats, are sup-

plied us from the North, and West; while we can, *if we will*, raise stock in abundance. With such vast tracts of forest and swamp, the fact cannot be doubted. In former and happier days, it was the custom to raise neat cattle for market. It cannot be too soon resumed. In those days, hogs were allowed to fatten on mast, and previous to being driven to market, or slaughtered for curing, their fat was hardened by feeding on corn for two or three weeks, with only water enough to prevent the corn lodging by the way.

All this is very simple. Let us do the like again. Nothing is too simple, which is beneficial to ourselves, and the public. That country which buys its provisions, can never be either happy, or independent. Only think, Mr. Editor, of Dutch, French, Scotch, and Irish *Hay*, being sold in your market! This proves one of three things—that we have a superabundance of stock—that we are shabby economists—or, that a consuming drought has afflicted the land.

But while on the subject of provender for quadrupeds, I am reminded of a matter which the planters, as a body, ought to act upon. I allude to the difference in the weight of corn. In the summer of 1836, I had to purchase that necessary article, at the high price of 150 cents a bushel, and upon trial, it was found so light, the overseer was obliged to give nine quarts for a peck allowance. This is a loss of 12½ per cent, which, added to a short measure of two quarts from every bushel, amounts to but a fraction under 20 per cent., or 180 cts. for the corn. Now, Mr. Editor, I ask your countenance of a very sensible proposition; which is, that we require corn should be sold by weight. Cotton, rice, and flour, go by weight, why should not corn? All do, or should know, that in the heaviest grain there is most food; so all should be anxious to get the heaviest corn, when the highest price is paid. This is another good thing we can effect, *if we will.* It is bad enough to be losers in measure; a loss, against which I do not perceive the means of guarding; but if we lose in the quality (or weight) of grain, we deserve to be fed ourselves on the husks. A certain quantity is given out as a sufficient allowance, but it is not so, if the grain is light. This is a matter for serious consideration, with all those who do not raise all their provisions.

Certain these reflections cannot do harm, and hoping they may be useful, I beg you will favor them with a place in your valuable Journal.

M. D. A.

On Silk Culture.

February 17th, 1838.

Mr. Editor,—I hope the pretty compliment you paid our young ladies, will have the effect of making them *try* to look "brighter." "Blue stocking" ladies I don't fancy much; but show me the girl who makes herself useful, and tries to make what is good, better still; and you will show me something bright indeed. A more pleasant, or profitable employment, for young ladies, than silk raising, reeling, &c., I do not know. If the Agricultural Societies of this State, would but offer a handsome bounty for the best specimen of native silk, they would give an impulse to the culture of it, which would result honorably to them, and profitably to the State. A beginning only is wanted, and none can be so auspicious of good results, as one under the encouragement of a public body. Publicity of success, is of itself a sufficient reward to very many, who would not trouble themselves to achieve it, if their fame be limited to the family circle. Ladies, like no less than gentlemen, to see honorable mention of their names as successful competitors for a medal. An Agricultural Society at the North, publishes the exhibition before them of gloves, and sewings, made of native silk, by some young ladies of Massachusetts, and expresses the "hope it will not be many years before the ladies will take a laudable pride in *exhibiting themselves* (mark that) at the FAIR, dressed throughout, in silk of their own making; and they (the committee) would recommend a liberal premium to all who will thus appear." Now let it be considered this silk was produced in Massachusetts, and is "creditable to any place, or any country"—and what, permit me to inquire, is to prevent our young ladies producing as good? Nothing but a "liberal premium." Something elegant; something which they can exhibit in the drawing room, and in days to come, to their grand children. Money

will not serve the purpose with our girls. The prize must be something to *admire*, and be as it were, an "heir-loom" in the family. That's the way to approach a Southern lady. Interest the ladies, and success in the culture of silk is insured.

From what I have seen on the subject, the profits are immense; almost exceeding credibility. Apart from considerations of profit, it is an employment of great advantage to young, and invalid people; eliciting the kindliest feelings and ingenuity of the first, and to the latter, affording gentle and healthful in-door employment, for mind and person. The labor is so light, it may be counted as nothing; all is to be accomplished by application, and this is another advantage it offers to the young, as on continued effort, much of our well doing in business of any kind, depends. Fortune is seldom taken by surprise. Our climate and physical advantages, offer so many facilities for undertaking the culture of silk, that I wonder not a little the frigid North, has been permitted to act the pioneer for us.

I perceive a gentleman in Augusta, offers for sale cuttings of the Morus Multicaulis, which he warrants genuine. Now is about the time they should be planted or set, and I hope one young lady at least, will begin this praiseworthy employment, and succeed to her highest wish. If our Horticultural Society can consistently, they should offer a brilliant, as the reward of success. The Agricultural Society of South-Carolina can, and it is most earnestly to be hoped they will not forget to do it.

By the by, Mr. Editor, I perceive you are at points with Mr. Noisette, as to the merits of the Morus Multicaulis, and Morus Alba respectively. From what I have observed in the Northern prints, I conclude it can be no longer questioned, that the silk produced from either, is every way as good as that, from the other. The matter then for us to determine, is simply, which best suits *our* climate, and produces most food for the worm, with the least care and labor. The determination of this point, is of great importance to the whole South, and I conceive the Society just mentioned, cannot render a more acceptable service, than by undertaking it. A few cuttings of each kind properly attended, will in one season, put the question at rest forever. I trust this suggestion, although from an humble individual like myself, will receive a kind con-

sideration from the gentlemen forming that very respectable, and useful Society.

Wishing all prosperity to the silk culture, and your sunny girls, I am, your obedient servant,

EXPERIMENT.

Useful Hints.

Milch Cows.—These should be well fed, morning and night, there being at present little if any food, for them to graze upon in the fields. Great economy can be exercised in preparing their food. All your cobs may be boiled, and the water from the same mixed with your boiled peas or corn—into this I would throw a small quantity of hay or blades, chopped up fine. Cows thus fed, will produce three times the amount which they would otherwise do.

Manure.—If manure is to be carried from the stable or cow yard or poultry house, which I generally have near my dwelling house, I make every negro carry a basket load as he goes to work in the morning. I also harness the horse to the cart, and carry a cart load to where I am about to plough for the day. This expedites business amazingly. It is by these little helps that the main labor is expedited.

Fencing.—In splitting rails, I make each worker, as he returns home every evening, take a few rails upon his shoulder, and drop them where the fencing is wanting.

Work Horses—Should be housed and well fed morning and night. Their stables should be well littered every day or two, and the litter should be removed and thrown into pens or pits prepared for the purpose.

Negro Houses.—If these have been neglected in the early part of the winter, I make it a point to overlook them now. See that they are well attended to, all holes or crevices in them stopped, &c. The health of your negroes greatly depends upon this.

Carts.—Save all the tallow, and other grease which you have—mix this with tar, and keep your wheels well greased with the composition. A creaking wheel makes a thin horse.

ASHLEY.

PART II.

SELECTIONS.

On the Purification and Classification of Seeds, &c.

We copy the following Observations from Lewis' Experimental Farming, from a late No. of the Farmers' Register.

It has been already stated that farmers are extremely cautious, and even backward, in the adoption of anything *new*. Potatoes, for instance, although brought into England about the end of the 16th century, were long confined to the gardens of the nobility and gentry; and in Scotland were not planted in the open fields until the year 1792, upwards of 200 years after their first introduction. So prejudiced, indeed, were the Scottish peasantry against their admission, that they attributed the origin of every disease, no matter of what nature, to the influence of this vegetable. Turnips, also, although known in Britain before the potato, did not come into general cultivation until long after the days of Tull, a Berkshire agriculturist, who introduced the system of drill husbandry in the year 1701. He obtained very few followers for more than 30 years, and Scotland was the first to reduce his system to practice. In 1760 it was there in pretty general adoption. Hence it was introduced into Northumberland in 1780; and it has since slowly found its way into the more southern parts of the island. Such has been the introduction of two of the most valuable roots now in cultivation; and assuredly we could not have well adduced a stronger practical illustration of the probable usefulness of an experimental farm for promulgating a knowledge and expediting the culture of those vegetables whose qualities and merits have been previously untested, or partially ascertained.

The introduction of potatoes and turnips, it may be said, took place when education was at a very low ebb, and when the supineness of our agriculturists was at its height, and therefore, that any deductions drawn from this subject are inapplicable now. But we shall shortly make it more than probable that even with all the science and enterprise of modern times, there is yet a wide field of discovery lying before us, and which hitherto has been almost wholly neglected.

We allude more particularly to the classification and purification of seeds. Individuals no doubt have at different times, directed their attention to this subject, but their labors, instead of remedying the existing defects, have only tended to show the almost unlimited extent to which improvement in this department might be carried. They have failed, not from the unfruitfulness of the subject, but from the inade-

quacy of individual exertion for the task, and their failure is a powerful practical argument in favor of a combined and collected effort for the full development of the latent and hitherto dormant susceptibilities of the vegetable kingdom.

The grand distinguishing characteristic of plants over inorganic matter—that which characterises their latent powers and living functions—is their susceptibility of improvement; animals have it to a certain degree, but not nearly to such an extent as plants, for the productive faculty of the former cannot be increased like that of the latter. As is well remarked by Mr. Sharon Turner, most agreeable and surprising transformations have arisen from this property. The rose is the product of cultivation; the original plant from which all our beautiful varieties have proceeded is considered by botanists to be the common wild brier. Our plums are cultivated descendants of the sloe; the peach and nectarines, of the common almond tree; filberts are the improvements of the wild hazel; the delicious apples, whose species may now be reckoned by hundreds, are cultivated successors of the small austere crabs and wildings, which swine will scarcely eat; the original pear is a petty fruit as hard and crude as the former; our cauliflowers, cabbages, and other domestic vegetables, may be regarded as almost artificial products, so much has human skill had to do in their production.

If, then, so great a susceptibility of improvement exists in the productions of horticulture, it becomes a question of great interest, and momentous importance to ascertain whether or not the different species of grain, roots, and grasses, employed in agriculture are possessed of a like inherent susceptibility. It is a well known fact, that grain, if allowed to degenerate, returns into a state very similar to that of some of our coarser grasses, which of itself is a very strong argument for the point at issue. But we have still more unequivocal evidence that, even in what may be denominated its present improved state when compared with the inferiority of its supposed original, it is possessed of the principle of productiveness to an extent fully as great as the vegetables mentioned in the above quotation. To prove this we shall insert the following statement being the result of the exprience of Colonel Le Couteur, one of the deputies from the island of Jersey. Three years ago this gentleman became acquainted with professor Le Gasca, one of the most celebrated botanists of Europe, who had been curator of the Royal Gardens at Madrid, and obliged to leave Spain, where he is now again restored to his friends and former situation. The professor was then growing about eighty sorts of wheat in the garden of Mr. Saunders, nurseryman in Jersey. The variety of classification, and beauty struck Colonel Le Couteur, who sought to procure all the information he could from professor Le Gasca. The latter told him that for the last twenty-five years he had been employed in studying the properties and characters of wheat and had collected in the Royal Gardens nine hundred varieties and subvarieties. He came to Colonel Le Couteur's farm, and picked more than twenty sorts out of three fields then (in August) growing and gave daily instruction and information wanted by Colonel Le Couteur, who resolved to profit by such an opportunity, and began seriously to cultivate the important plant of wheat, so as to procure the several sorts distinct from each other, and keep notes of the experiments made on the culture, produce, weight of the grain, and qualites of the corn, flour, and straw

Colonel Le Couteur has kept a most minute account of his experiments, and taken the greatest care to preserve the best sorts in their purity. He has in London nineteen varieties of the greatest beauty and such as the frequenters of Mark Lane say could not be matched in England for purity.

The Colonel, after three years' experience, has arrived at this conclusion—that the proper mode of cultivation of wheat is yet unknown or unpractised.

That it is of consequence to keep the several sorts to grow apart, because they all ripen at different periods, and that bread made of ripe and unripe corn could neither be so wholesome nor nutritious as when made of ripe corn without the mixture of that which had not been well ripened.

That each sort will thrive best on a particular soil and situation adapted to it.

That one ear of a particular variety, sown grain by grain, and suffered to tiller apart, produced 4lb. 9 oz. of wheat; whereas another ear of an inferior sort, treated in the same manner, produced only 1lb. 13 oz. Hence it is of importance to select the sorts that are the most farinaceous and productive.

That by sowing each sort apart, they might be easier saved and harvested in rotation, some sorts ripening a fortnight before the others. That the same quantity of wheat of a farinaceous kind may maintain a family of fifteen persons twelve months, where the same quantity of another kind, though apparently fine corn, will maintain them only nine months.

The following extract from an article by Mr. Gorrie, in Messrs. Drummond's third report, will show that nature has been equally profuse in presenting to the attention of the farmer an ample variety of plants, wherewith, to improve his meadows and pastures :—"out of more than two hundred grasses suitable to our climate, it may be said that only one genus, the rye-grass, has as yet received general culture. From among sixty species of clover, only three or four species receive general attention. Of the genus lotus, sixteen species are hardy; and in waste lands two species contribute to enhance the value of the pasture; but in agriculture they are seldom noticed. The species of melilot are as numerous, many of which vie with our common clover, and form excellent substitutes when land is clover sick, yet that genus is almost quite neglected. The same may be said of many species of *vicia*, *lathyrus*, *orobus*, *medicago*, and other diadelphous plants, which point out the apathy and remissness of the farmer. Hence it is obvious that agricultural societies, as hitherto conducted, however efficient in other departments, have failed in exciting sufficient attention to the nature of vegetables."

The statements demonstrate most satisfactorily the vast capabilities, which exist in the living functions of grain and grasses, and the successful results of horticulture go far to establish the existence of a like susceptibility in the roots available for agricultural purposes. Indeed, the selection and propagation of improved agricultural seeds has till lately been very little attended to. But the subject has been taken up by Mr. Sinclair, of New Cross, Mr. Sherriff, of Mungoswells Mr. Gorrie, of Rait, and others; and we have little doubt some greatly improved varieties of our more useful field plants will be the result. Mr. Sherriff mentions (Quar. Jour. Ag., vol. i. page 366,) that the variety of the Swedish turnip, cultivated in East Lothian

had, by judicious selection of roots from which seed was saved been improved in nutritious value upwards of 300 per cent. "Potatoes and Swedish turnip," Mr. Sherriff says, "appear to be susceptible of farther improvement by judicious selection, as well as the different grains so long cultivated in this country and which in almost every instance have become spurious. But whatever may be the degree of improvement of which the agricultural produce of the country is susceptible, by the propagation of genuine seeds of the best varieties of plants, one remarkable feature of such an improvement is, that it could be carried into effect without any additional investment of capital, or destruction of that already employed.

The facility of propagating genuine seeds will become manifest from a statement of my practice. In the spring of 1823, a vigorous wheat plant, near the centre of a field, was marked out, which produced sixty-three ears, that yielded 2,473 grains. These were dibbled in the autumn of the same year, the produce of the second and third seasons sown broadcast in the ordinary way; and the fourth harvest put me in possession of nearly forty quarters of sound grain. In the spring of this year I planted a fine purple top Swedish turnip that yielded (exclusively of the seeds picked by birds and those lost in thrashing and cleaning the produce) 100,296 grains, a number capable of furnishing plants for upwards of five imperial acres. One-tenth of an acre was sown with the produce in the end of July for a seed crop part of which it is in contemplation to sow for the same purpose in July, 1829. In short, if the produce of the turnip in question had been carefully cultivated to the utmost extent, the third year's produce of seed would have more than supplied the demand of Great Britain for a season.

Plants and animals equally belong to the class of organic beings—both are endowed with sexual organs, from whose germs an offspring proceeds, which in its turn exercises a propagating power; so that in taking a comprehensive view of the subject of agricultural improvement, and especially what may be effected through the agency of seeds, we find the same laws to a considerable extent acting in both cases. However important we may deem a knowledge of the subject of the propagation of live stock, attention to the selection of the seeds of plants is no less so, but, on the contrary, is of still greater moment, in as far as it embraces the improvement not only of the herbage which supports the inferior animals, but of those plants, part of which forms the direct ingredients of human sustenance. The analogy just adverted to, existing between animal and vegetable life, is exemplified in the sexual union, which, under certain favorable circumstances, takes place between varieties of the same species of plant, giving rise to a new race partaking of the properties of both parents, and which is termed hybrid. New hybrid varieties of agricultural plants, when suffered to intermingle with the original kind, disseminate their influence around them like crossbred animals, unrestrained in their intercourse with the general herd till the character of the stock becomes changed, and consequently deteriorated or improved. In either case, propagation from the best variety alone, would be attended with good effects. The principles of propagation in vegetable and animal life are, as has just been hinted, nearly the same; but the propagation of vegetables must exceed that of animals in importance in an economical point of view, as much as the vegetable produce of the country supasses that of its animals in value. Indeed, animals

may justly be considered mere machines for converting our inferior herbage into a higher species of nutriment; grasses and roots being likened to the raw materials, butchers' meat to the manufactured commodity.

The importance of attending to varieties of cultivated plants has been ably pointed out by Mr. Bishop, at once a scientific botanist and an experienced practical gardener. "By means of varieties," he says, "the produce of our gardens and fields are not only increased in a tenfold degree, but the quality of the produce is improved in a still greater proportion. In them we perceive the labor and assiduity of man triumphing over the sterility of unassisted nature, and succeeding in giving birth to a race of beings calculated to supply his wants in a manner that original species never could have done. The difference between varieties that have sprung from the same species fits them for different purposes, and for different soils, situations, and climates. Some by reason of their robust nature, are winter vegetables; and others, by being early, are spring vegetables; while some are in perfection in summer, and others in autumn. The fruit produced by some is fit to eat when pulled off the tree; while the fruit of others is valuable by reason of its keeping till that season when nature rests to recruit her strength. Thus, in edible plants and fruits, we are supplied with an agreeable change throughout the year, from a difference in varieties that have sprung from the same species. In the earlier ages of the world, no idea could havebeen entertained of the excellence, some varieties have attained over their originals. Who, upon viewing the wild cabbage that grow along our sea-coast, would ever imagine that cauliflower or broccli would have been produced by the same? Or who would expect the well-formed apple of a pound weight from the verjuice plant in our hedges? Many instances might be noticed of original species that are scarcely fit to be eaten by the beast of the field, the varieties of which afford a nutritous and wholesome food for man. Upon comparing the original variety of the *Daucas carota* the *Pastinaca satira*, and some other indigenous to our climate, with their varieties produced by culture, we are struck with their great inferiority, and cannot help reflecting on the hapless condition of that hungry savage who first taught us their use; for nothing short of the greatest privation could ever have led to that discovery. Indeed nothing is more obvious, upon comparing original species with their varieties produced by culture, than that we, by means of the latter, enjoy a vegetable food far preferable to our fore fathers—a circumstance, from which it may be inferred that posterity is destined to enjoy a better than that which we do now. For although it is reasonable to believe that there exists a degree of excellence attainable by varieties over the species whence they have sprung, yet as that degree is unknown, and as it is probably beyond the power of man, of cultivation, or of time, to determine the same, we are justified in regarding it as progressive, and in considering the production of a good variety as the sign or harbinger of a better.

The power of distinguishing varieties, and of forming some idea of their worth at sight, is an attainment much to be desired, because valuable varieties may sometimes appear to those who have it not in their power to prove by trial: and if they have, the probability is, that the means to be employed require more care, time, and attention, than they are disposed to bestow on plants, the merits of which are doubtful; whereas were such persons capable of forming an

estimate of the worth of varieties from their appearance, then would they use means for their preservation, whenever their appearance was found to indicate superiority. That this is an attainment of considerable importance will be readily allowed; yet, that it, in some cases, requires the most strict attention, appears from the circumstances of varieties being oftentimes valuable, though not conspicuously so. Let us suppose, for instance, that in a field of wheat there exists a plant, a new variety, having two more fertile joints in its spike, and equal to the surrounding wheat in every other respect: a man accustomed to make the most minute observations would scarcely observe such a variety, unless otherwise distinguished by some peculiar badge; nor would any but a person versed in plants know that it was of a superior value if placed before him. How many varieties answering this description may have existed and escaped observation, which, had they been observed and carefully treated, would have proved an invaluable acquisition to the community! The number of fertile joints in the spike of the wheat generally cultivated, varies from 18 to 22, and the inhabitants of Great Britain and Ireland amount to nearly the same number of millions; therefore, as the wheat produced in those islands has been of late years sufficient, or nearly sufficient, to supply the inhabitants thereof with bread, it is evident that a variety with two additional fertile joints, and equal in other respects to the varieties at present in cultivation, would, when it became an object of general culture, afford a supply of bread to at least two millions of souls, without even another acre being brought into cultivation, or one additional drop of sweat from the brow of the husbandman.

The same varieties are not repeatedly produced by culture; if they were, there would not exist the necessity for strict observation and skill on the part of the observers, because, if a variety be lost or destroyed, we might look forward to its reappearance; or did we possess the power of producing varieties, and of producing them late or early, tall or dwarf, sweet or sour, or just as we might wish to have them, then might we plead an excuse for inattention. But experience shows, that when a variety is lost, it is forever lost, and the slightest reflection cannot fail of convincing us that our power of producing them is most limited. Indeed, our knowledge only enables us to produce those of the intermediate kind, while varieties that confer extension or excellence are as likely to be produced from the seed sown by the humble laborer, as from that sown and treated by the ablest horticulturist, the most skilful botanist, or most profound philosopher of the age. From these remarks it is obvious that the benefits mankind derive from the varieties produced by culture are numerous and important, and that the discovery of those of merit is an object highly deserving our attention. They also prove more especially that of Colonel Le Couteur, that the development of these is a matter attended with no small difficulty, from the delicacy, the minutenesss, and science with which the experiments require to be conducted, and here the immense superiority of an experimental establishment for the accomplishment of these ends, will appear in a very prominent point of view. Not only could the observations of such men as Colonel Le Couteur, Mr. Gorrie, Mr. Bishop, and Mr. Sherriff be most carefully attended to and practically applied; but by means of the subsidiary associations the whole would be conducted on a scale commensurate to the wants of an extensive country.

By assigning to each variety a distinct space, the different sorts

would be kept apart while growing, and a series of accurate observations instituted as each successive development took place during their growth, as well as after they had arrived at maturity, which could not fail to be attended with the most successful and beneficial results. And not only so; by means of the local institutions the situation and the soil best adapted to each might be discovered, and the different varieties would thus not only be purified, but, what is perhaps of equal importance, characterized. In this way the uncertainty at present inseparable from the practical results of every agricultural operation would be removed, for the farmer could select with the most unerring accuracy the particular sorts best adapted to his climate, soil, &c.

It has been objected by some that no single establishment could be made applicable to the variety of soils, climates, &c. of Scotland. This objection, however, may be completely obviated by attending to what may be termed the working machinery of an experimental farm, as fully detailed in the original suggestions. It is there stated that a connected line of communication, by means of lateral branches in every country, is essentially necessary to the success, and, indeed, forms part of the scheme; and we would here farther suggest, that the ground set apart for experiments by these local associations, and the different museums in connection with them, should be entrusted to the management of an experienced nurseryman or gardener. We have no doubt that many among this numerous and intelligent class might be found both competent and willing to undertake the task, more especially as the details they would be called upon to superintend are so intimately connected with the subject-matter of their own profession; and, if so, those scientific attainments which have hitherto been confined to a comparatively circumscribed sphere, would be brought to bear upon the rural economy of the country, and the co-operation of individuals would be secured who were in every way qualified both to act as a check and an assistance to the parent establishment—as a check, by testing and verifying the report of the chief manager as an assistance, by furnishing accurate and scientific statements of the several matters entrusted to their care.

It has been also objected that from the richness and highly pulverized nature of nursery and garden grounds, no just estimate could be formed of a specimen from the grain produced on them. Now, were the method of preparing the soil, which we have detailed so fully in a preceding article, generally practiced and properly executed, it is not too chimerical to expect that the whole arable land of the country would eventually become almost as rich and as highly pulverized as any garden or nursery grounds can well be. As a considerable time, however, even under the most favorable circumstances, must elapse before this can be accomplished, the uncertainty arising from the above cause might, in the meantime, be easily removed. Suppose, for example, that some particular variety has been discovered, evincing a decided superiority in its apparent productiveness, &c., over the rest, the manager has only to obtain permission from some of the neighboring farmers (which we are certain would be most cheerfully granted) to allow it a place for trial, on such soils and in such situations as may be deemed best adapted to bring its virtues to the test. By this simple arrangement the peculiar qualities of every variety would be practically certified before it received the recommendation of the establishment, and the nurserymen or gardeners, while they operated as a check and an assistance to the parent establishment,

would themselves be operated upon in like manner by those individual farmers with whom they found it necessary to hold communication.

The whole country would thus be converted into one wide field of experimental inquiry, which could not fail most effectually to correct at the true source all those evils which arise from the sudden and frequently injudicious introduction of any new variety of seed. For at present it often happens, as every agriculturist knows, that a newly discovered variety is approved of or condemned, not from its own intrinsic qualities or merits, but from the treatment it receives, or the accidental state of the weather during the season in which it might have been introduced. This has been the case with several varieties of oats since the commencement of the present century; and who can tell whether or not the chevalier barley, which has been lately introduced into this country so rapidly and to so great an extent, would maintain its vaunted superiority over the other varieties if subjected to the ordeal of a series of late seasons.

We shall now briefly advert to the national advantages which might reasonably be anticipated from the operation of such an establishment. In order to perceive these, the annual amount of grain, potatoes, turnips, grasses, &c., would require to be ascertained.

According to M'Culloch the annual consumption of grain in the United Kingdom amounts 52,000,000 quarters, and the imports of foreign corn in 1831 amounted to 3,541,809 quarters, being the largest quantity ever brought into Great Britain in any one year.

Now assuming that the annual consumption is 52,000,000 quarters, inclusive of seed, and that the annual average of native growth amounts to 50,000,000 quarters, let us advert to the results of Colonel Le Couteur's experiments. There we find one variety of wheat 250 per cent. more productive than another, and it will certainly not be thought unreasonable to assume that the produce might be increased to the extent of 10 per cent. not only on grain, but also on roots grasses, &c.

We thus perceive that in a national point of view the scheme is pregnant with the most important advantages to the British empire, and therefore well worthy the attention of the enlightened and philanthropic statesman. It may also serve to show how chimerical and crude the theories of those alarmists are, who would terrify us with the dread of a superabundant population. In the language of the eloquent author whom we have already had occasion to quote, "Cultivated produce has hitherto outrun population, and to all appearance will always do so. From the increasing enterprise and science of agriculturists, not only the merits of many of the varieties of grain, roots, and grasses, &c., now in existence and as yet very little known, will be more fully elicited, but new varieties, and even genera possessed of more useful properties than any of those now cultivated, will continue to be discovered. From the facts we have adduced, and the extraordinary phenomena constantly occurring in the vegetable kingdom this is by no means improbable. Be this however, as it may, two laws are visibly operating in nature—one that its produce shall always be increasable by human labor and skill. Ordinary but diligent exertions of these have hitherto abundantly sufficed for all that has been needed. Local distress, indeed may arise from temporary seasons, but never from a failure of the powers of vegetable nature."

Brooks' Silk Spinning Machine, and the Silk Culture.

[FROM THE FARMER AND GARDENER.]

We have always been sanguine with respect to the ultimate success of the silk culture in this country: our opinion was grounded in our honest belief of its great profits, its happy adaptation to our soil and climate and to the interests and wants of our people: but there was one difficulty which always presented itself to our mind, and made us fear that some years would have to revolve around before it would be fully established. *We allude to a want of a market for the cocoons.* Almost any farmer with his own domestic force, could gather leaves, feed and attend the worms, and produce a crop of cocoons; but the latter without a market near at home, or the means of converting them into silk, being of a nature that forbid compression, and occupying much space, would not in that state bear distant transportation to find a market. And as matters stood a few years since, the only good effected in submitting the cocoons to the operation of the Italian reel, the one most approved, was to transform the delicate fibre from its conic shape into raw silk, which had again to be submitted to the operation of *twisting* before it could be said to be generally merchantable. All these difficulties, however, are, in our estimation, entirely removed by the introduction of the excellent machine invented and successfully put into practice by Mr Adam Brooks, of Scituate, Massachusetts. Of this machine, and its wonderful performance we had often heard, but could not from any description of its mode of operation fully comprehend its very great use and peculiar fitness for the purposes of the American agricultural public. We contemplated a jaunt to the eastward next spring for the purpose of examining the operation of one of Mr. Brooks' machines, and of gaining such a practical knowledge as would enable us to go into the silk culture the ensuing year, having already provided ourself with an abundant supply of the morus multicaulis trees, the best variety of the mulberry for the feeding of worms and production of silk. The opportune arrival of Mr. Brooks in our city, however, last week, has saved us all that trouble and expense. We prevailed upon him to take his machine out to our residence in the country, where he put it into operation, and worked up about half a peck of cocoons, to the entire satisfaction of every one present, not only winding off the gossamer silken fibre from the cocoons, but at the same time converting it into a most beautiful *sewing silk*, doubled and twisted, equal in evenness and fineness to the best Italian, and greatly superior in elasticity and strength. This was all done with perfect ease, and so simple is the machine in its construction that any woman can obtain a competent knowledge of it in two or three hours.

One great object in the construction of this machine, arising from its simplicity and fewness of parts, is, that it but seldom, if ever, gets out of order, if well treated; and another not less important is that should it by any accident become deranged, almost any ingenious mechanic can at little cost put it in repair. These are *desiderata* which must largely contribute to bring it into general use, and render it a favorite with every one engaged in the silk culture. With one of these machines, no farmer need be at a loss for a market for any silk he may raise, as his wife and daughters without neglecting their other occupations, with the aid of a lad to turn the wheel, can man-

nfacture all he may make into good sewing silks. His silk thus fabricated, as every one knows, will readily find a market near at home, in almost every village; but should a market not be thus convenient, it can easily and at little expense be transported to any of the larger cities, where it is sure to find a ready market and good prices. One of these machines, moved by a hand power, attended by a female and lad as above stated, can readily turn out from ½ to ⅔ of a pound of good sewings in a day. The value of the cocoons in their raw state is *four dollars* per bushel, that is $4 per pound, a bushel making a pound; when manufactured into sewings, it will be worth from $7 to $11 per pound, according to the care and skill with which it may be fabricated. Let us now then, attempt a approximation to something like a calculation of the profits; and in order to do so, we will presume that a farmer has an acre in culture. We have in our unpretending Manual assumed, that an acre is competent to furnish foilage sufficient to support 540,000 worms, that calculation was based upon the supposition that they were to be fed upon the leaves of the *White Italian Mulberry;* but from our experience, we have no hesitation in affirming that one acre planted in the *Morus Multicaulis*, or *Many Stalked Chinese Mulberry*, will furnish leaves enough to feed 1,000,000 of worms at the first feeding, and if the eggs be *kept over*, as they can be by being placed in an *ice house*, the same acre of trees will furnish foliage enough to feed a *second crop* or an equal number of worms. But let us waive the feeding of the second crop, and this will be the result.

A million of worms will produce 333⅓ bushels of cocoons, which will yield 333⅓ lbs. of silk, which silk when made into sewing silk will be worth at $7 per pound, the minimum or lowest price, $2333 33⅓; if we deduct the expense of manufacture, as follows; 2 women, or girls, are competent to attend 4 machines, with the aid of 4 boys to turn the wheels: in 6 months, with easy work, these can convert into sewing silks. 333⅓ lbs of silk. I set down the wages of the two women at $3 per month, which for the 6 months they will be occupied, will amount to $36; allowing their board to be worth $10 per month, it will be $110; the wages of the boys at $5 per month, is $120, their board at $10 per month, is $240; cost of the services of of two women to reel 333⅓ lbs. of silk into skeins, say two months, board $40, wages $12; interest on cost of 4 machines, say, first cost $40 each, transportation, $5=$180; interest per annum at 6 per cent., $10 80, cost of cleansing, coloring, and doing up into separate skeins, if done at a dyehouse, $1 per pound, on two-thirds, say 222 lbs.=$222; cost of cleansing the balance of 111 lbs. 25 cents=27 75, or for the whole process, $249 75; cost of feeding the worms, if fed on morus multicaulis leaves, $44 63.

Now let us see how the account current will stand:

RECAPITULATION.

One acre of Silk, in account with Cultivator.

	Dr.
For wages of two women 6 months,	$36 00
For board of do. " "	120 00
For wages of four boys, " "	120 00
For board of " " " "	240 00
For cost of two women to reel,	52 00
For interest on cost of 4 machines,	10 80

For cost of cleansing, coloring. &c.,	249 75
For cost of feeding the worms,	41 63
Balance as per contra,	1,463 15½
	$2,333 33½

	Cr.
By value of 333½ lbs of sewing silk, at $7 per pound,	$2,333 33½
By balance, or clear profit of one acre in the silk culture, the silk converted into sewing silks,	$1,463 33½

The agricultural reader will perceive, that in this estimate we have taxed the acre in silk culture with *Laborers*, and the board of such laborers, as though the cultivator had been comepelled to call in *extra help*, whereas we believe that there are very few who would engage in the business but would have the necessary help within themselves for all purposes except feeding the worms, and this expense from the circumstance that the leaves can be gathered and the worms fed just as well by children from 7 to 10 years of age, as by grown persons, it only being necessary to employ one careful hand in the cocoonery to give a general superintendence over them, may be much reduced. And what more beautiful or interesting employment could a farmer ask for his wife, daughters and sons, than that of tending to silkworms an occupation that the empresses and nobility of the *east* monopolized for centuries? He will also perceive that the cost of dyeing, cleansing, and separating the skeins forms a heavy *item*, because it is presumed that this work it is to be performed at a dyeing establishment: now the truth is, that any good housewife with the directions contained in the works we had the honor of publishing a year or two ago, may save to her husband all this expense, saving and excepting about 10 cents per each pound of silk, for dye-stuffs, making $22,20.—If then we abstract these expenses, which may be saved, it will make a difference in favor of the cultivator of $795 55. That the dyeing, cleansing and separation of the skeins may be as well done in each cultivator's family, we have no hesitation in affirming; for Mr. Brooks exhibited to us samples of sewing silk, which had not only been spun by his wife, but cleansed, dyed and put into skeins also, and we do not ask too much for it when we say, that it will lose nothing by comparison with the very best Italian sewings we have ever seen. He also shewed us some specimens of silk handkerchiefs which had been made by his lady, and wove on a common loom; these for softness, fineness, and high finish, were equal to any imported article in the market. The stamping of the figures on these were executed by Halliday of Lynn, Mass.

It may not be inopportune before we conclude to make a few remarks in explanation of our former *estimate* of the cost of attendants during the process of feeding, which occupies about 6 weeks at farthest. As we have premised, that estimate was based on the supposition that the leaves were to be gathered from the white Italian Mulberry, and as the leaves of the Morus Multicaulis is nine or ten times larger than those of the former the expense is consequently reduced in a proportionate ratio; but as we like to make *full allowance*, we have only in *this estimate* reduced the expense one half.

In our Manual we stated that the legislature of Mass. had granted a premium of 50 cents on every pound of *reeled* silk; they have subsequently repealed that act, and now grant a premium of $1 on every 10 lbs. of cocoons raised in the state; 50 cents per pound on all silk raised and reeled in the state, and 50 cents for all silk grown, thrown or twisted in that state; thus giving a premium of $1 per pound to the producer and manufacturer of sewing silk, an amount fully equal to all the labor, where it is done as it should be, in one's own family. This act of high and exalted patriotism acts as an incentive among her citizens, and is producing the happiest effects upon the interest and well being of that ancient commonwealth. Should not her noble example urge upon the legislatures of the other states of the confederacy to make enactments granting similar bounties? We think it should.

We cannot close this article without mentioning that Mr. Brooks will deliver Reels in Baltimore, competent to perform the work of converting cocoons into sewing silk, for from $40 to $45: his residence is in South Scituate, Massachusetts, where he manufactures them extensively. He has already received, *premiums, medals, and certificates of excellence*, from the following Institutions.

"The Agricultural Society of Plymouth county, Massachusetts,"
"The State Agricultural Society of Massachusetts,"
"Philadelphia Agricultural Society."
"Kennebec (Maine) Agricultural Society."
"New-York State Agricultural Convention."
"Fair at Boston, Massachusetts," and the
"New-York American Institute."

Experimental Silk Culturist.—Letter from E. NEWCOMB, P. M.

[FROM THE SILK CULTURIST.]

Polsley's Mill, Va., Nov. 28th, 1837.

F. G. COMSTOCK, Esq.

Dear Sir,—Having been an attentive reader of the Silk Culturist, as well as many other periodicals on the subject, culture and manufacture of silk, and feeling a deep interest in their success in the United States, and having read of various experiments in feeding worms, and of various fixtures for the worms to wind the cocoons on, I have been induced to try some experiments myself. Although a beginner in the business, it may possibly be some satisfaction to some of your readers, to hear the results of my experiments. About the 20th of May last, I hatched about 200 silk worms and fed them about five weeks, when they commenced spinning and made good cocoons.

On the 4th, 5th, and 6th of June, the second crop hatched and fed 30 days, and were healthy and made 4.000 good cocoons. On the 13th 14th, 15th, and 16th of June, the third crop hatched, and fed well and were healthy until about the 26th day after hatching, at which time, many of them were attacked with a disease, called the yellows which carried off half of them; the remainder spun their cocoons, 3.000 in number, but they were small, and light. The above worms were from last years eggs. The fourth crop hatched, on the 29th July, and fed about 26 days, and were very healthy, and made large

cocoons. The fifth crop, hatched on the 7th, 9th, 11th, and 13th of August, and spun in 26 days after hatching, and were healthy and made good large cocoons. Of the fourth and fifth crops, which made 42 knots of silk on Dales' reel, four threads of which, made good sewing silk. The fourth and fifth crops were from eggs of this year's produce.

It appears that eggs will not hatch *regularly* the *same season* which they are *laid*. Having read various opinions on that subject, I thought I would try some experiments, and accordingly obtained a few eggs, about the 12th of August in 1836, and exposed them to the common atmosphere and not one of them hatched that season.

Although some of the same stock from which I got them did hatch, (to the number of about 200) about six weeks or two months before. About the 20th of May, I exposed the few eggs last mentioned, together with about 4,000 of the same stock, and in about a week after they all hatched out, that is, they hatched on the 4th, 5th and 6th June.

I left about 6 or 8,000 eggs, deposited this season, on the hurdles, in hopes that they would hatch, as they were sent for the *two crop*, or *white worm*, and 300 of them hatched. About the same time, I examined those that were in the cellar, and found that 2 or 300 of them, had hatched also. I then exposed 6 or 7,000 of those in the cellar to the common atmosphere, but not another worm of them hatched this season.

The plan I have adopted for feeding frames is similar to that of Mr. Whitemarsh of Northampton, Mass. with this difference, that instead of having all the hurdles of one size, I have them arranged in the following manner:—My hurdle frame is about three feet wide, divided as follows—the first hurdle, for the worms when first hatched, is a thin board 13 inches wide, the second hurdle is a frame covered with milinet which is two feet wide, with a paper slide underneath. The third hurdle is a frame covered with net work, four feet wide; and the fourth hurdle is six feet in front covered with net work, and a slide underneath, as above. This plan is designed for successive crops, and answers a good purpose, with one exception, which is, that, when the worms are spinning some of the worms are inclined to spin between the net work and paper slides, and by drawing the slides in order to clean off the litter, you will disturb the worms in their labor, and of course, those so disturbed are lost. But in order to obviate that difficulty, I dropped the slide one and a half inches lower, so that they could not reach from the net work to the paper slides below. I have tried Mr Whitemarsh's plan for the worms to spin on, and I have substituted small lath for his net work, and the worms appear better pleased with the lath, than the net work. I have tried the plan of seven-eighth inch holes in one and three-fourth inch plank. The holes answered a good purpose but are too expensive unless made by a machine for that purpose.

I have invented a plan, which pleases me better than any that I have seen, or read of. It is to take a thin plank, five-eighths of an inch thick, and seven or eight inches wide, with legs about one and a half inches long at the bottom edge of the plank, and form shelves by running grooves in each side of the plank, about seven-eights of an inch apart, and take a thin board, from one-eighth to one-fourth of an inch thick, and slit off pieces wide enough to fill the grooves, and to project about seven eighths of an inch, so as to form small

shelves. This gives them just room to form their cocoons. The worms appear better pleased with this plan, than any other. I have tried, and no litter can fall from one worm to another, and of course the cocoons are kept entirely free from any litter whatever.

I have made a silk reel after Dales' plan, and have succeeded in reeling about three lbs. of silk, and have manufactured about 500 skeins of sewing silk, a part of which is said to be as good as most of the imported. The above silk was manufactured on the common wheel, but I intend to get a small spinning machine, before I manufacture much more. I do not expect to make much silk next season but the following year I am in hopes I shall be able to make from 40 to 50 lbs. of silk. if I have good luck with my trees and cuttings, as I have Italian and Chinese trees and cuttings, sufficient to stock about three acres of land, which I have lately purchased for that purpose. I shall have about 3,000 Italian trees two years old for sale this fall, or next spring. I would sell them this fall, if called for. I have about 160,000 silkworm eggs for sale also, both of which I will sell as reasonably as they can be had at any regular market.

Yours &c.

E. NEWCOMB, P. M.

The Morus Multicaulis and Morus Alba Compared.

[FROM THE FARMER AND GARDENER.]

A correspondent asks us this question:

What are the advantages if any, of the variety of mulberry known as the *morus multicaulis*, over the White Italian mulberry?

OUR ANSWER IS THIS:

The *Morus Multicaulis* is not a variety, but a distinct species. The *White Italian Mulberry* requires four years growth before it can be safely fed from; six years before remunerating profits can be obtained from its foilage; and twenty before it can be said to have attained its full growth:

The *Morus Multicaulis* tree can be fed from the *first season without injury*; the *second season* it will yield nearly as much foliage as at any subsequent period. It may be multiplied from cuttings to an almost incalculable extent; every piece of wood with a single bud, being competent to make a shrub from four to six feet high the first year; whereas the white Italian mulberry requiris, as we have before stated, four years before it can be fed from, and even then, to nothing like the extent of the former.

The leaves of the *Morus Multicaulis*, are 9 or 10 times as large as those of the White Italian mulberry; equally as nutritous, and are eaten with equal, if not more avidity by the worms, will make silk fully as lustrous and elastic as those of the White Italian; and from the great size of the leaves of the former, it reduces the labor of gathering and feeding, 70, 80 or 90 per cent.; but for the sake of accuracy, we will say, 50 per cent. This fact will appear obvious to our correspondent, when we state a few others by way of illustration.

An acre in Morus Multicaulis, two years old, will yield by one-half more foliage than the same quantity of ground in Morus Alba, or White Italian mulberry, six years old: when a leaf of the *former* is gathered, food is provided for 9 or 10 worms, whereas a leaf of the

latter, only suffices one worm: there is no more trouble in gathering the large leaves of the Morus Multicaulis than there is in those of the Morus Alba: the labor of feeding is the same, with the difference, that in feeding with one of its leaves, you accomodate nine times the number; in the leaf of the Morus Multicaulis there are but few stems and scarcely any that are not *eatable* by the worm: in that of the Morus Alba, the stems and *uneatable fibre*, comprise fully one-third of its weight, all which is waste and loss.

In feeding with the leaves of the *Morus Multicaulis*, the *residuum* being but little or none, there is no vegetable offal remaining, to become offensive by fermentation, and hence, a greatly *reduced quantity* of labor is necessary to keep the worms clean: In feeding with the White Italian mulberry, a large amount of *stems* and *coarse fibres* are left on the shelves, which if not speedily removed, ferment, become offensive, and consequently produce disease in the worms.

These are a few of our reasons for preferring the *Morus Multicaulis* to all other leaves, and we hope by this time that our *correspondent* is satisfied that they are *such* as ought to give to the tree a preference over all others for feeding silkworms, where profit is desirable, or the health of the worms are considered an object of moment.

Corn—Red Blaze.

[FROM THE GENESEE FARMER.]

Mr. Tucker.—Although the articles in your paper under the caption *Corn*. have been more numerous than any other, if we expect the everlasting changes which have been rung on the subject of wheat turning to chess, I do not recollect any thing respecting the variety called Red Blaze, except a bare hint or two very recently. I hence conclude that it is a variety very little known. Of its origin I know nothing It was brought into this town three years ago from some of the eastern counties. The first year it was only cultivated by one farmer, and as this season was unfavorable for corn, and this kind produced well, it obtained considerable notoriety in town. The next season many of our farmers obtained some of the seed, and I believe uniformly, where it was cultivated in such a manner as to give any reasonable expectation of a crop of any variety, the red blaze gave good satisfaction. I have cultivated it for two seasons, and like it well. My corn is ripe and sound, and for such seasons as we have had three years past, is more than can be said of any other variety with which I am acquainted. The ears are small, usually eight rowed, and set thick on the stalk. There is a singular appearance to the stalks, partaking in a great measure of the color of the corn, which resembles the red blaze of a fire: hence its name. Last spring I planted one field of the yellow twelve rowed corn, ears long and very large, and from the good condition which the field was in, I had high hopes of getting a good crop. The corn was planted the 10th of May. The latter part of the season, as all well know, was very unfavorable for corn, yet we had no frost to injure it. The stalks were thrifty and well eared, yet when I came to harvest it, I found full one-third unsound corn. I also planted a field of red blaze the 29th of May, the soil not so well adapted to corn. This field produced well—the corn sound. I do not pretend to any accuracy of experiments as to

these varieties. I wish merely to recommend the red blaze as a variety which produces well, and has ripened and become dry and sound the two last cold seasons.

Yours, &c.,

O. P. Q.

East-Bloomfield, Dec. 1, 1837.

Scott Corn.

[FROM THE FRANKLIN FARMER.]

See the following letter of R. W. Scott, Esq., on the result of his efforts to improve, by crossing or intermixing two distinct varieties of corn. The facts and illustrations presented, afford matter for the serious consideration of farmers. The truth of the *principle* laid down in the latter, has long been known, but we are not aware, that any one has preceded Mr. Scott, in the attempt to apply it to practical and profitable use. Perhaps it might be still important to cross the new variety produced by Mr. Scott, with some other corn, in view of obtaining some other desirable quality; this, however is a matter of taste or judgement, like that of breeding stock. If the product of Mr. Scott's experiment, possesses all the important qualities desired, this seed alone ought to be propagated; but if other qualities are desirable, the result may be obtained by intermixing with some other variety. We suggest to Mr. S. and others, that it would be well to make a separate experiment now, of the product of his crop, with the Baden corn. Would not that experiment, in a few years, bring about a product, uniting all the qualities of his corn, with the prolific character of Mr. Baden's:

We call the attention of our agricultural friends to the liberal offer of Mr. Scott, to furnish applicants with seed. That gentleman has also offered to supply planters with Baden corn seed. Applications addressed to him or to us for either or both descriptions, will be cheerfully attended to. The applicant will discriminate which variety he wishes—whether the Baden or Crittenden corn, or the Scott corn—for Mr. S. must permit us to give his name to the product of his experiment.

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LOCUST HILL, Nov. 22, 1837.

Mr. T. B. Stevenson:—According to your request, I send you herewith, some of the Baden, or Crittenden corn, and also parts of two stalks, with five ears on one, and four on the other, of a new variety of corn produced by myself, by crossing or intermixing the common rare ripe or hominy corn, with the small parti-colored pop corn. I would recommend the corn to your careful attention in planting, as well as the Baden corn. Perhaps you may be encouraged by some knowledge of its history, which is as follows: Having observed that the two above varieties, which grew near to each other in my garden, (at that time small,) had accidentally intermixed, it occurred to me that the two varieties might be so crossed and blended as that the mongrel product would have the large, early size, maturity, &c. of the rare ripe corn, and the property which the small pop corn has, of producing as many as eight ears upon one stalk. The two varieties have been planted close together, so as to intermix, (the

best top ears being always selected for seed,) now four years. When gathering it last fall, I found one stalk which had four ears upon it, three of which grew upon one shoot or stem, each enclosed in separate husks. I took the principal ear from this shoot or stem and planted part of it this spring to itself, on the border of a garden walk, where of course, it could not be cultivated on one side; yet the following has been the encouraging product:

Thirty-two hills contained sixty-eight stalks; two of which stalks had each three distinct ears on one shoot; nine stalks had each two ears on a shoot; one stalk had four ears upon it, of which two grew upon one shoot; two stalks had five ears on each; five stalks had three separate ears on each; thirty stalks had two separate ears on each of them; and one hill had thirteen ears in it, ten of which grew on two stalks, five upon each. The corn which I send you is part of this product. As you will see the stalks are large and vigorous, the corn round and ripe, the ears full and of good size; one of which I send you, measuring nine inches long, and six inches in circumference; its parti-colored character still showing its genealogy, even to the fourth generation. I have no doubt but that after the character of the corn is fixed, a pure white corn may be produced by planting only the white grains from the ears.

If Mr. Baden's success demonstrated the fact that *all corn might be improved by selecting the best top ears, &c.*, this corn has also demonstrated a fact, which is not less important, that *the valuable properties of the different varieties of corn may be easily and readily united by crossing or intermixing*, as appears also by the specimen herewith sent of the largest gourd seed corn crossed with the pop corn. Here is also a wide, interesting and unlimited field for experiment opened to the practical and observing farmer in which the success already obtained, gives the most positive earnest of the happiest results for the future.

The above facts have been stated to you, that you may be induced to plant this corn separately, and to cultivate and observe it with care attention, which I hope you will do; and should any of your friends or acquaintances wish to have any upon the same terms, it will be furnished with pleasure.

Very truly, your friend,

ROBT. W. SCOTT.

Baden Corn.

[FROM THE FARMER AND GARDENER.]

We are indebted to the Hon. Henry L. Ellsworth, of the Patent office, for the following communications relative to the above corn, which has gained so much celebrity within the last few years. While we publish them with sincere pleasure, we take occasion to say, that the public are greatly indebted to the praiseworthy exertions of Mr. Ellsworth for bringing the merits of this prolific variety of corn to the notice of the agriculturist. For ourself we feel the more indebted to this gentleman, because from the nature of his laborious official duties his exertions in behalf of the husbandry of the country, which have been extensively exerted, must be a heavy tax upon those hours which should be devoted to ease in the bosom of his family. Would

that the halls of Congress had many such gentlemen in them; we might then hope soon to see the foreign shipments of grain dispensed with.

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PATENT OFFICE, Dec. 12, 1837.

Dear Sir—I have received many inquiries respecting the culture of "Baden Corn," and addressed a letter to Mr. Baden on the subject. I take the liberty of enclosing his letter for publication in your valuable paper.

Mr. Baden's experiments this season show that his own is earlier han many other kinds. I have distributed the last year a great number of parcels of the Baden corn—that which has been planted in latitude not exceeding 40 or 45 North, has succeeded admirably. It will soon be acclimated in the higher latitudes. Over 100 bushels has been raised per acre on the rich lands of the West and South, without any manure.

Yours, respectfully,
H. L. ELLSWOTH.

Mr. ROBERTS,
Editor American Farmer, Baltimore.

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To the Hon. HENRY L. ELLSWORTH,
Washington City.

NEAR NOTTINGHAM,
Prince George's County, Maryland.
November 4th, 1837.

Dear Sir,—Agreeably to promise, I now write you a few lines to inform you, that within the last two years (and never before) there has been a report in circulation that my corn was a later kind. However, for the satisfaction of my friends, I have made an experiment this year, which I hope will satisfy every one upon that point. I planted a lot of six acres and a half, as near as I could judge, (by stepping) of this kind of corn, the 20th day of May last—my book is now before me. I cannot be mistaken in the date, which is more than a month later than the common time of many persons planting in in this neighborhood. I gave no extra management to hurry its growth, and determined to give it only the common routine of work that I generally give my corn. It is now perfectly ripe and hard and has been for some time, and no frost could do it any injury in any way, and I believe it will yield as much good sound corn to the acre as any that was planted in the neighborhood any time in April upon land of the same quality. This evidently shows that my corn is a forward kind, and will come to maturity as soon as any other. By the first opportunity I will send you a few stalks of this corn that was planted the 1st day of May, with the corn on them, as it grew in both the lot and field, and none with less than *four*, and some with *seven and eight good ears on a stalk*—then I will leave you to judge which of them is the better. As soon as it is sufficiently dry to shell and put up, I shall send you twenty or thirty bushels of as good seed corn as you have ever seen. I have not long since discovered something in this corn, which convinces me that I can still make a great improvement on it, by adding much to the quantity and quality of the grain on each stalk. I am now persevering in my efforts, and intend to raise a large crop every year in its purity, to supply all who may apply for it for seed. I have been frequently requested to give a

statement of my mode of planting and cultivating corn. As the planting and cultivating of corn is so generally understood, I deem it almost unnecessary to say any thing upon the subject; but to satisfy the wishes of such friends as think they can profit by it, I willingly give it. I first pulverize my land by good ploughing, and lay it off five feet apart each way. By the first of May, or a few days sooner if the weather is warm, I begin planting—roll my corn in plaster and drop three grains in each hill. As soon as I have done planting, I set to ploughing one row and leave two, and harrow over the field in this way as soon as possible to prevent the corn from washing up in case of heavy rain, which sometimes happens. Then I plough the other two rows at my leisure—as soon as the corn is generally up, I go over and replant all the missing hills; when the corn shows well along the rows to see how to plough, perhaps when it is 6 inches high or thereabout, I then commence ploughing the second time. The best ploughman commences siding with the bar side of his plough to the corn, and goes as close to it as he can, and throws the dirt from it; the other ploughman follows on, to plough up the middle of the rows. Their first furrows throw back and fill up the ride furrow, which leaves a soft fresh bed for the young roots to run in. As soon as the field is ploughed in this way I put the hoes in to clean out the hills and to place a little soft dirt around the corn, and at the same time to thin it so as to leave two of the best stalks in each hill. The third time of ploughing I turn the mould board to the corn and go near enough to throw the soft dirt around the stalks—that will answer the purpose of hilling and also to cover and smother the grass that may be springing up on the hills. The fourth time of ploughing over the field, I don't go so near the corn, nor quite as deep (in particular the first furrow) for fear of cutting the roots: and my wish is never to let it exceed ten days between the times of ploughing over the field. By this mode of working, the corn has always a soft fresh bed to grow in, and always has a healthy thriving appearance, and I don't remember ploughing it oftener than four times, and if the weather is seasonable, I never miss raising a good crop. I never let the suckers exceed a foot or 18 inches high, before I pull them off, the strength will then run in the stalks, which will cause them to grow larger and they will produce more and better ears on a stalk: the the grains also will be larger and heavier. I have said I planted my corn 5 feet apart each way. By experience I have found it to be near enough for our lands. Four feet apart each way, and two stalks in each hill is near enough for the richest land with this kind of corn. I like to work my field over the first time after the corn comes up, and the fourth time when I am laying it by, with the *cultivators*—but I make no use of tem in wet seasons.

Yours, reapectfully,

THOS. N. BADEN.

P. S. I can ship any seed that may be ordered each week to Baltimore, if a few days are excepted when navigation is interrupted by the ice.

Large Crops of Corn.

[FROM THE KENT BUGLE.]

Mr. Editor—For the encouragement of the agriculturists of Kent county, you will confer a favor by giving the following statement in your very useful paper. There was raised by the subscriber in Chestertown, on a small piece of ground, 99 by 45 feet, 4 barrels of corn, which would be at the rate of 195½ bushels to the acre. I planted it on the double drill system. This drill is two feet apart, with three stalks in a hill; it must be worked early, and plastered at 6 inches high. If the land be strong, well prepared, and cultivated as farmers ought to cultivate their crop, they would be sure to realize a full crop. Quere,—if so much ground can be made to produce 4 barrels of corn, why not a larger portion? All the farmer has to do, is to make his land rich, and a few acres will bring him more than a large farm.—Let any man in Kent beat this.

SAMUEL L. RAWLEIGH.

We understand that Mr. John Ridgely, of Hampton, raised off a lot of 5 acres, at the rate of 19 bbls., or 95 bushels to the acre.

Mr. Henry Schwartz, who resides a few miles from Baltimore, on the Frederick road, raised on a field of 25 acres, at the rate of 75 bushels to the acre.

Such results as these should encourage our brethren of the plough to persevere in their exertions, to *manure and tend well* whatever corn they may put in. It is certain that by a rigid adherence to these particulars, much greater crops of corn can be grown than our agriculturists have been used to. In the more exhausted parts of Maryland we have been assured that crops do not average more than from 2 to 4 barrels to the acre. How much better would it be, were those whose misfortune it is to have such poor land, to put in but half the quantity they usually cultivate, and give to *that* a double portion of manure and labor, than to be killing their beasts and hands in fruitless endeavors to raise corn from lands whose heart's blood has been long since extracted.

Durham Cattle.

[FROM THE INDIANA FARMER.]

It is a matter of surprise, even to some of our agricultural friends, how this improved breed of cattle, can be worth the high prices they are bringing throughout the country.

There are many reasons for this. First, they grow larger than our common cattle. Secondly, their flesh grows more abundantly in those parts where it is considered most superior. Thirdly, they fatten more easily than the ordinary kinds. Fourthly, Cows of this blood, give more milk, and some think of a better quality. Fifthly, this stock arrives at maturity much earlier than the common cattle of our country.

It has been often remarked that if all the grain and hay an ox or cow of the common breeds eats, before they arrive at maturity, were weighed and measured, and sold, that it would amount to more than the animal would sell for, to say nothing about the time spent in feed-

ing, or the amount of pasturage. We have no doubt that the way cattle have been managed, generally, in this State, this remark would hold good. This, then, renders it important, that every effort should be made by our stock raisers, to economize by the preparation of food, especially in this country, where such beautiful crops of roots may be produced, and where so much that may, with a little attention and preparation, be converted into fodder, is suffered to stand in our fields, and go to waste. But, more especially, would it be to their advantage, as soon as possible, to get into a breed of cattle that will come to maturity much earlier than those they now have.

On this account, perhaps, arises the profit from the Durham cattle, more than from any other cause. They are said to come to maturity from two to three years earlier than our scrub cattle. This, we have no doubt is the fact, when they are well attended to, and the common breed receive only *ordinary* attention. But there is no doubt, with the *same care*, the expense of feeding one or two winters, may be saved by our farmers, if they will procure the Durham cattle, which, together with the profits arising from the other superior qualities they possess, will make the stock raising business, in this State, so peculiarly adapted to that branch of husbandry, a most lucrative business.

Diseases of Sheep.

[FROM HILLYARD'S PRACTICAL FARMING.]

The diseases of this most useful animal are but little attended to; numbers die that might be saved by medicine, if shepherds knew what was proper to give them.

Foot rot is a most troublesome and difficult disease to cure. Put the sheep in a dry fold; clear the dirt from between her claws with an old tooth-brush; apply to the parts affected, with a wooden skewer or feather, butter of antimony, and let the sheep remain an hour in the fold. Or, apply a paste, made of equal quantities of blue vitrol, gunpowder and train oil.

Scab.—The most effectual remedy is the mercurial ointment, to be had ready made at all druggists; which is also good for sore heads, caused by the fly, or for maggots.

Gurry.—One small teaspoonful of turpentine, and four tablespoons ful of salt and water—one dose is often sufficient. Or, Peruvian bark, ginger root, and prepared chalk, one drachm, in warm gruel, with a tablespoonful of gin or brandy. If a severe case, a teaspoonful of tincture of opium.

If a sheep that is fat, or nearly so, appears to be off from its food, for some days, from some internal complaint, the safest plan is to have it killed.

Scouring of young Lambs.—Ginger and rhubarb, one tea spoonful, in warm gruel, with ten drops of laudanum. Fourteen teaspoonsful of rhubarb, seven of ginger, and seven of laudanum, or tincture of opium, will dose a score of lambs, about three quarters of a year old. Many flocks of lambs having been kept very short of food during the late dry summer, numbers have died from eating the young succulent grass which sprung up when the rain came.

Ewes injured in Lambing.—Apply to the parts warm water, and after, warm fresh grease; and then outside, some known good oils;

give a drachm of Peruvian bark and ginger in gruel, new milk, warm, made of linseed and oatmeal; add a tablespoonful of gin or brandy, and treacle.

To prevent the Fly.—A powder, composed of white lead and wine arsenic, to be shaken on with an old pepper box; it is to be had ready prepared of any druggist.

The most fatal disease is the rot, which is thought to be incurable; but I know from experience, that the progress of the disease may be so checked, that the animal will get fat enough for the butcher. There are various opinions as to the way in which this disease is contracted. I have ever thought it has been by the sheep eating in summer or autumn, the grass of flooded meadows, or swampy pastures, on which some sort of grub had deposited its larvæ, which are not destroyed by the heat of the stomach, but mixing with the chyle, find their way to the vessels of the liver, where they become what are commonly called flukes, from their their resemblance in shape to flounders, where they absorb the chief nourishment of the blood of the animal, and then, in a short time, cause its death. It may fairly be asked, how is it that beasts eating the same grass, are not affected by it? The reason probably is, that the digestion of an ox or cow is so much stronger, that the larvæ are destroyed, and carried away with the food.

An eminent surgeon has informed me, that there is no communication with the stomach and the liver, but as he cannot in any way account for the flukes getting into the liver, I do not give up my opinion. I am strengthened, too, in my belief, from its being well known, that after a frost of forty-eight hours, or less, sheep may safely be kept in a pasture, which, had they been put in before the frost, (even for one day,) would certainly in the course of two or three weeks, be found to have flukes in their liver, but which is prevented by the frost destroying the larvæ on the grass. I am quite aware that many other scientific objections may fairly be made against my idea; such as that the worm or grub, a cold-blooded creature, intended to live in common atmospheric air, could not exist in the inside of any animal. Bots, so common in horses laying out at grass, it is well known, are produced from the horses biting each other, in kind fellowship, about their manes, where some sort of fly or moth had deposited their eggs or nits, which the horses thus get into their mouths and stomachs, where they become bots, and make their appearance in the horses' fundaments. It cannot be supposed that instinct points to the moth or fly, to leave its eggs there for the purpose of getting into the horse's stomach; it appears to me that it probably only leaves it on that part from finding a saliva there from the playful biting of another horse. Hearing a farmer complain, in the year 1814, of the great loss he had sustained by the rot in his sheep, I recommended him to try Armitage's remedy; he had no faith in any of the nostrums; it was, however, agreed between us, that as I was going to London the next day, I should bring a sufficient quantity for a score of sheep, which he was to take on return, or sell me a score of sheep for ten pounds. He sent me the sheep. Our farms were divided only by a small brook, but the sheep having to walk a mile to get to my farm, two of them died in that mile. I dosed the eighteen according to directions. Sixteen soon seemed more lively for it; to the two that did not, I gave the medicine I had to spare, which proved to be overdosing them, and consequently killed them. Thirteen of the others I made fat in the summer, sent them to London, and made about forty-seven shillings a head. One

proved what is here called a rubber, which no feeding will make fat; one was drowned.

To see what sort of mutton the best was, I had one killed, and consumed (all but one leg which I sent to the farmer,) in my own family, who knew nothing of the circumstance attending it, and therefore found no fault with the meat; but some one, I remember, commended some joint as being very tender. The farmer could scarcely believe that the leg of mutton I sent him, could have come off one of the poor miserable animals that he sold me. For my own part, I confess I could not relish the mutton, although I felt sure there could be nothing unwholesome in it. The difference between that and the other mutton is, the lean is more tender and less flavored: the fat is whiter, and the gravy lighter colored. The farmer informed me afterwards of one circumstance which was important. He said he understood I was to have forty of his sheep, and therefore he drew forty of the worst of his flock, and marked them for me; that the next day, not liking to part with so many at so poor a price, he turned back into his flock twenty of the best of them, with the mark on, and every one of those twenty died. A few years ago, I made several inquiries after the medicine, and could hear nothing of it, but found that Armitage was dead. No medicine can make sound a liver that is in part rotten; but it can so stop the progress of this disease by killing the flukes, as to allow the sheep, with a summer's feeding, to get very fat. The chief ingredient in all the medicines must be oil of turpentine.

On Different Breeds of English Cattle.

[FROM THE FARMER'S REGISTER.]

Extract of a letter from Earl Spencer, to R. Rush, dated December, 1836, Althorpe, Northamptonshire.

I am so much interested in breeding cattle, that I never think it any trouble to write upon the subject, and therefore feel most happy in giving you the best information I can, upon it. I am, however so much engaged with one breed, that I fear my authority would be disputed by the advocates of the other improved breeds in this country; but I will endeavor to give you as impartial an opinion as I can. In my opinion, there are only four breeds of cattle in this country, upon which so much pains and attention have been bestowed, and in which so much improvement has been effected, as to render them worthy the attention of a stranger. These are the Devon, the West Highland Scot, the Hereford and the Short-horned breed. The Devons have three varieties: the North, the Midland, and the South. The first are an excellnt breed, fattening very quickly and producing the best quality of meat. They give, however, very little milk, and are of very small size; consequently, as it costs nearly as much to breed and rear a small animal as a large one, they are not calculated for those parts of the country, where the soil is good enough to produce larger cattle. I believe them to be the only cattle that can keep themselves in good condition, during a dry summer, on light and sandy land. The Midland Devons have not the same merits. The South Devons come to a larger size, and are the Devons generally used for draught. For this, they are excellent; but they are very

slow feeders, and when at last fat, are far from being favorites with with the butchers. The North Devons are, as I have said, the best calculated for light dry soils; but they are not fit for exposed and bleak situations. The West Highland Scot, is also an excellent sort of cattle. They are calculated for poor soils; but their merit is in bearing cold and exposure. The Devons would beat them as much in a dry hot summer, as they would beat the Devons in a cold winter. I believe they do not produce much milk; but as the practice, in their native country, is to allow them to rear their calves on the foot upon the sides of the mountains, and not to use them at all, I believe as dairy cows, I am not able to speak positively on this point. They do not fatten very quickly; but when fat, the quality of the beef is excellent, and it bears a higher price in the provision market, than any other beef which is sold there. No one, I believe, has ever bred the West Highland Scots, any where but in mountainous districts; and their size is so small, that it could not be advantageous to do so. The Hereford, are a very valuable, large breed of cattle, and cannot be surpassed for the purpose of grazing, in land of moderate or superior value. But they are the worst milkers of any of the English breeds, because they do not give so much milk as the Devons, and what they do give, is very poor.

In the Short-horned breed, there are three varieties; but all evidently of the same family: the Ayrshire, the Holderness, and the properly called Short-horned or Durham. The general characteristic of this family appears to be, that of being very good dairy cows. The milk they give is certainly not rich; but the quantity is very great. The Ayrshire and the Holderness, retain this characteristic in its original perfection. The Ayrshire having been located in a more northerly and cold climate, have fallen off in point of size, but retain the qualification of being very good dairy cows. The Holderness have kept the size of the breed, and possess, in great perfection, the propensity to give a large quantity of milk; but neither of these varieties have much tendency to fatten, or to produce oxen profitable to the grazier. The Short-horned, or Durham, having been located in the rich valley of the Tees, have acquired, from constantly feeding in rich pastures, the propensity to fatten, which the other two varieties want: and although they have fallen off in their value, as milch cows, yet they retain so much of the family characteristic, as to render them generally much better dairy cows, than are to be found in any other of the grazing sorts of cattle. This is so much the case, that much the *largest* number of the dairy cows, from which London is supplied, are of this breed. The dairy men tell me, that although they might find cows that would give more milk, yet they fatten so much easier than such cows would, that it answers to them to sacrifice a portion of the dairy produce, for the purpose of being able more profitably to dispose of the cows to the butcher, when they are no longer in milk. The Durham or Short-horned oxen, are fully equal to the Herefords for grazing purposes, and I think when great perfection in shape and quality is required, combined with large size, as in the case of striving for prizes, the Durhams will generally be found to be best. I am endeavoring to give you as impartial an opinion as I can; but it is right for me to tell you, that I am the largest breeder of short-horned cattle in England. With respect to other breeds of cattle, they are hardly worth mentioning. The Galloway is a good sort, but its merits are of the same nature as those of the West Highland, and

very *inferior* in degree. The Alderney milk and cream, is a great luxury from its richness; but the cattle possess no one qualification which a grazing animal ought to have; and I believe no one who farms for profit, ever has Alderney cattle. The Suffolk produce probably as much milk as the Holderness, and of the same poor quality; but they are inferior to them in size and propensity to fatten, to the greatest possible degree. The Glamorganshire, and indeed all the Welsh cattle, from being very cheap, are frequently purchased by the graziers; but no man who has ever tried any of the improved breeds, and can afford the out-lay of capital necessary to buy them, ever continues to graze Welsh oxen. The Lancashire, are a thick-hided, coarse race, with bad quality of flesh, and having no merit of which I am aware; and the Suffolk, though good, are only an inferior variety of the Devon.

Formation of Soils.

[FROM THE COMPLETE FARMER.]

A farmer should be well informed of the nature of soils, and of the various plants adapted to them. Some useful plants flourish best in what is called poor land; and if cultivators were perfectly acquainted with the art of adapting plants to soils, much manure might be saved, which is wasted by injudicious and improper application.

It is supposed by geologists, that the whole of this earth originally consisted of rocks, of various sorts, or combinations. These rocks, by the lapse of ages, and exposure to air and water, became disintegrated, or worn in part or altogether to fine particles, which compose what is called earths or soils. These soils are chiefly silica, (sand or earth of flints,) lime, (or calcareous earth,) alumina, (clay,) and magnesia, (a mineral substance.) With these are blended animal and vegetable matters in a decomposed or decomposing state, and saline, acid, or alkaline combinations.

Plants are the most certain indicators of the nature of a soil; for while no practical cultivator would buy or undertake to till land of which he knew only the results of chemical analysis, yet every farmer and gardener, who knew the timber and plants a soil spontaneously produced, would at once be able to decide on its value for cultivation.

It was a maxim of Kliyogg, a famous philosophical farmer of Switzerland, 'that every species of earth may be instrumental to the improvement of another of opposite qualities.' All sands are hot and dry—all clays, cold and wet; and, therefore, the manuring sandy lands with clay, or clay lands with sand, is best for grain and pulse. But it is not the natural soil only that the farmer ought to consider, but the depth of it, and what lies immediately underneath it. For if the richest soil is only seven or eight inches deep, and lies on a cold wet clay, or stone, it will not be so fruitful as leaner soils that lie on a better under stratum. Gravel is, perhaps, the best under stratum to make the land prolific.

The best loams and natural earths are of a bright brown, or hazel color. Hence, they are called hazel loams. They cut smooth and tolerably easy, without clinging to the spade or plough share; are light, friable, and fall into small clods without chapping or cracking in dry weather, or turning into mortar when wet. Dark gray and russet

molds, are accounted the next best. The worst of all, are the dark and light ash-colored. The goodness of land may also be very well judged of, by the smell and the touch. The best emits a fresh pleasant scent on being dug or ploughed up, especially after rain, and being a just proportion of sand and clay intimately blended, will not stick much to the fingers on handling. But all soils, however good, may be impoverished, and even worn out, by successive crops without rest, especially if the ploughings are not very frequently repeated before the seed is sown.

If we examine tracts of land which have not been cultivated, we find nature has adapted different kinds of plants to most of the distinguishable varieties of soils; and though some belonging to one may for some cause or other, be found on lands of a different quality, they seldom thrive or perfect their seeds, so as to become general. The great care of the farmer ought, therefore, to be, by proper mixtures, to reduce his land to that state and temperament in which the extremes of hot and cold, wet and dry, are best corrected by each other; to give them every possible advantage flowing from the benign influences of sun and air; and to adopt such kinds of plants as they afford in this state the greatest nourishment to; and to renew their fertility by a judicious allowance of the most proper manures. Where these things are done, there are few spots so unfriendly to cultivation as not to repay his expenses and labor, with a plentiful increase. But without these, the best tracts of land will in time become a barren waste, or produce little but wood.

The color of soils is important. The Farmer's Journal observes, coal ashes were sprinkled over half the surface of beds, sowed with peas, beans, &c., and on these, the plants invariably appeared above ground two or three days earlier, obviously on account of the increased warmth; it being a well known fact, that dark colored bodies absorb caloric more readily, and in larger proportions than those of a lighter hue.

Soils which absorb the most moisture are the most fertile. Sir Humphrey Davy observed 'I have compared the absorbent powers of many soils with respect to atmospheric moisture, and I have always found it greater in the most fertile soils; so that it affords one method of judging of the productiveness of land.'

The methods of improving soils are too numerous to be here fully specified. We will, however, quote one mode of restoring worn out fields to the fertility of new lands, or lands lately cleared from their aboriginal growth of timber, quoted from a '*Dissertation on the mixture of soils*,' for which the author, the Rev. Morrel Allen, of Pembroke, Mass., was awarded a premium by the Plymouth County Agricultural Society.

'Particles in a soil, which had long been in contact, and, in consequence of long connection, lost much of the energy of their action on plants, are separated in mixing soils, placed in new connections, and act with renewed vigor. But the most permanent and best effects are always expected from the mixture of soils of different qualities. When the object is to produce as much immediate influence as possible, merely to assist one short rotation of crops, to have the application, we make act chiefly as manure, then we may take our materials from any situation, where we know vegetable substances have fallen and decayed.

'We may go into forests, and in certain stages of the growth of the wood, without any perceptible injury, skim the surface of the whole lot. This soil of the woods, carried in sufficiently large quantities to old fields, will restore them to original productiveness. And this will sometimes prove an inexhaustible resource for renewing old fields; for as often as the fields decline, the soil in the wood lot will be again renewed, and fit to remove. For the same purposes, the earth should be carried from the sides of walls and fences, where the leaves have been lodged from the forests. It should also be carried from hollows and temporary ponds, which in certain seasons of the year become dry, and afford immense quantities of vegetable matter, in different stages of decomposition, and suitable to apply to any kind of soil.

'Where streams of water occasionally overflow the banks, an abundance of vegetable and earthy matter is lodged on the meadows, which in many cases, especially where there is not much extent of meadow to receive the substances conveyed by the stream, it is prudent to remove on to higher land. It will there act as manure, and at the same time gradually alter the texture of the soil, rendering it more retentive of dew and rain, and easily penetrated by the fibrous roots of plants. Of the value of those substances, which are carried in streams of water, to enrich soils, we have the most convincing proof in the unexampled productiveness of interval lands. It is not exclusively the vegetable substances carried on to these lands, which make them so astonishingly productive; there is a portion of every kind of soil existing in the surrounding country, annually carried on with the vegetable substances. Intervals are composed of every sort of earth the water can reach and remove. This circumstance may properly encourage the mixtures of many kinds of earth, even when there is no particular evidence that each kind is especially adapted to remedy any deficiency in the soil, which we would improve. There is less hazard in administering medicines in great profusion to cure diseases in the soil, than in the human body. What is always disgraceful in the physician, viz., to boast the number of his applications, and the judgment with which they have been made, as it is impossible for them to do any harm, if they do no good, may, in the farmer, often be a course worthy of praise. In stepping out of the beaten path of habitual practice, and calling attention to experiments, which to some may look very simple, and to others, very absurd, we may become instrumental in the discovery of highly important truths.'

Arthur Young lays it down as a maxim, that a strong, harsh, tenacious clay, though it will yield great crops of wheat, is yet managed at so heavy expense, that it is usually let for more than it is worth.—Much money is not made on such land. The very contrary soil, a light, poor, dry sand, is very often, indeed, in the occupation of men, who have made fortunes. Some permanent manure is usually below the surface, which answers well to carry on; and sheep, the common stock of such soils, is the most profitable sort he can depend on.

PART III.

MISCELLANEOUS INTELLIGENCE.

Shaker Barn, or Ventilation.—The English agricultural journals are warmly praising a mode of curing hay by ventilating the stacks or mows, and thus preventing mold or must; it will be seen by the following extract from the same writer's papers, that ventilation is no new thing among the Shakers. Is it a wonder that men who manage with such care and skill, grow rich rapidly?—and would not the majority of our farmers be benefitted by taking a few lessons of neatness and prudence in farm management from them.

"The great object of agricultural curiosity at Hancock, is their magnificent circular stone bar, two stories in height, and ninety-six feet in diameter. The great mow is in the centre, and is said to be capable of containing four hundred tons of hay. The floor, or drive way, is on the outside of the circle, and the team goes round and comes out of the same door by which it enters. By all passing in the same direction, several teams can stand on the floor and be unloaded at the same time. In the centre of this mow, a large mast or post is erected, reaching from the ground to the roof, which is crowned with a small cupola. Slats, or pieces of plank, are secured around this post at a small distance from it, to prevent the hay from coming in contact with it, and the hay at the bottom being raised from the ground, a perfect ventilation is kept up, and the steam from the new hay is effectually carried off."

Importation of Wheat.—The importation of wheat from Europe has commenced again. One or two packets last week brought grain, and it is said that large orders have recently gone out, founded on a scarcity in the United States, or at least high prices for a long period.

It is somewhat singular that flour should maintain its present high price, when it is understood that most of it from the interior has to be paid for by the dealers here with cash, or what is nearly equivalent, at 30 days sight. The country banks will not advance funds to the speculators with the same freedom as formerly, and consequently the holders forward it to New-York, and draw for the proceeds at 30 days sight. Much of it must be thrown into the market for sale, and we would suppose that such a course would bring down the price. But that is not the case. It still remains firm, and foreign wheat may now be imported at a profit.—*N. Y. Eve. Post.*

Sugar Beet and Mangel Wurtzel.—One thousand and seventeen bushels of Sugar Beets and Mangel Wurtzel were topped and pulled by nine men in *three hours.* This is the production of a little over an acre of ground in Newton township, Gloucester county, New Jersey. Many of the beets weigh 12 lbs.—*U. S. Gazette.*

The advantages of the *beet culture* as provender for cattle, must obviously strike every agriculturist who may read the above paragraph; but for the sake of *accuracy* we could have desired that the exact quantity of ground occupied by these two varieties of beets, had been named. Beets, whether of the Sugar Beet or Mangel Wurtzel variety, which will average 3 lbs., will yield, if planted at proper distances, *two feet* in the rows, and *one foot* apart, will yield per acre, 1089 bushels. That *three pounds* as the *average* is a moderate one, is made obvious by the fact, that many of the above beets weighed 12 lbs. Had they all done so, and by proper manuring and after culture, they may be made to do so, they would have yielded to the acre 4396 bushels.—*Ib.*

How to raise Potatoes.—The following rules for the culture of potatoes, are from Noah Webster:

1. The seed potatoes should be those of full growth.
2. Cuttings produce more than whole potatoes.
3. Potatoes will not come to perfection without the sun. Therefore nothing is so prejudicial as to plant them too thick, especially on a rich soil.
4. The cuttings, in drills, where the land is light, will answer well at nine inches distance.—*Maine Farmer.*

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How to make a double crop on poor soil.—Plough up your ground intended for corn in the fall of the year, as deep as you can plough it; let it lie till spring; at the opening of which, when the frost is entirely out of the ground, give it a good ploughing and harrow it down. It is then in good order for preparing to plant. Take of slaked ashes two-thirds, and of ground plaster one third; mix them well together, and follow the droppers, and put as much of this mixture on the seeds as you can grasp in your hand, and cover it well over in the usual way. The corn will grow up finely, and retain a strong vigorous growth and green color, and stand the drouth much better than upon the strongest culture. The writer of this having tried the experiment for two years, has fully tested its value.

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Economies.—How to save oil and candles.—Use sun-light two hours in the morning, and dispense with candles and lamps two hours after 9, P. M. The morning sun-light is much cheaper and better than evening lamp light.

How to save expense in clothing.—Purchase that which is at once decent, and the most durable; and wear your garments despite the frequent changes of fashion, till it becomes too defaced to appear decent; then turn and wear it henceforth as long as it protects the body. A blue coat is as warm after fashion requires a green one, as it ever was. A red shawl in fashion to-day, is as comfortable as a black one which fashion requires to-morrow. A few years hence your fame will not depend upon the style, color or quality of the broadcloth you wear in 1837.

How to save time.—Have a place for every thing, and when you have done using it, return it to its place. This will save much time in hunting after articles which are thrown carelessly aside, and lie you know not where.

How to save expenses in travelling.—Cultivate the bump of inhabitiveness; and if you want to go a mile or two, walk rather than hire an establishment at the livery stable. This will be for the health of your body, as well as a security of your purse from languishment.

How to save in little matters.—Procure a book and keep an exact account of all your expenditures. At the expiration of three months, review the account and see how much you have expended in four penny and nine penny items, which you could have done without as well as not. Then see to it that each ensuing quarter shall be minus just those things. In many cases the aggregate would be found more considerable than you would be aware of, unless you kept such an account.

How to save your property, if your house should be consumed by fire.—Get insured. No one is entitled to much charity after he suffers loss, if he neglects so easy a method of securing himself.

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Edge Rails.—The edge rail has now entirely superseded the tram or train-plate, and is used in all rail-ways worked by locomotive engines. This form of rail causes much less friction to the wheels, there being considerably less surface of the former coming in contact with the latter. These rails are made of wrought iron, in 15-feet lengths, with an upper flanch slightly curving from the middle to the sides; the weight of rail is regulated by the tonnage passing along the line. On the Stockton and Darlington, Manchester and Liverpool, and Leeds and Selby Railways, the weight per lineal yard of the original rails is 35 lbs. On the Manchester Railway, however, rails of 75 lbs. are being substituted. The size of the 35 lb. rail is 3 1-2 inches in depth, 2 1-4 inches as to the width of the upper flanch, and the upright portion three-quarters of an inch thick. The original rails of the London and Birmingham Railway, are 50 lbs. in weight, as also those of the Greenwich Railway; but on the former line, 75 lb. rails are being laid down, to a considerable extent. The Manchester and Bolton rail is 50 lb. to the yard, but differs in shape from those used on every other railway. The top flanch is 2 1-4 inches wide, the bottom flanch 4 5-8 inches wide, the depth 2 6-10 inches, and the thickness of the middle portion three quarters of an inch.—*Whishaw's Analysis of Railways.*

Communicated for the Southern Agriculturist.

Monthly Calendar of Horticulture, &c.

FOR MARCH.

This is one of the most important months for the gardener, of the whole year, in as much as he will have more crops to put in, and more work to do, than is required at any other time.

Tomatoes.—If you have raised any plants on a hot bed, you may now set them out. We prefer planting them in rows four feet apart, and two feet in the row. As they grow, they should have earth drawn up to their stems, and have sticks stuck around to support the branches, which would, if unsupported, split off and fall to the ground, by their weight. If you have no plants, sow some seeds in a well sheltered spot, and plant them out as soon as they are large enough.

Okra.—For an early crop, select a high light piece of ground, which manure well, and throw into ridges, (or beds) about every 3 feet apart. Sow the seeds on the top of these, and as they advance in growth, thin them out to from 12 to 18 inches in the row. This plan may be condemned by many, *and will not do for the main crop*, but for an early crop, more will be obtained (in consequence of the greater number of plants) at the time when they are most desired, than by the old method, of wide planting. For the main crop select a low, well drained spot, which throw into ridges, 4 or 5 feet apart. Make holes every 2 or 3 feet, (according to the richness of the soil) and plant in each a half dozen or more seed, which are to be gradually thinned out, as the plants advance in their growth, until but one is left.

Squashes.—The usual plan is to form hills, at the distance of 4 or 5 feet apart, and plant the seeds on the top, leaving about 4 plants, after they are finally thinned out. This plan may do for the running varieties, but we prefer the Bush Squash, and planting on ridges. These we make but 3 feet apart, and leave the plants 12 inches distant—by this mode we secure a greater crop at that season when they are most desired.

Cucumbers and Musk Melons.—These may be planted like the Squashes, only they must have more space allowed them. As these bear their fruit on the lateral branches, the leading shoots ought to have their ends pinched off as soon as they appear. In fact, Gardeners, who desire early fruit, usually destroy the embryo shoot, which is found near the base of the second leaf—by doing this, lateral shoots are soon thrown out, and young fruit produced; whereas, if left unpruned, the leading vines will grow to some length, before they throw out laterals, and consequently will come into bearing much later. To produce a large crop, it is not only necessary that the ground should be rich, but the ends of the shoots should be frequently pinched off, in order to force out new branches. Our space will not allow us to enter more fully into their culture.

Water Melon.—It is best to cultivate this crop always with some other, which will shade the vines. Finer fruit is certainly produced in this way, and a greater number, than when they are planted by themselves, and exposed fully to the rays of the sun. They appear to thrive best when planted among cotton; next to these, among okra and the sweet potato. We have also succeeded well with them among tomatoes. They require much more space than the musk melon. *As the*

Water Melon bears its fruit on the main or leading branches, these should never be stopped or pinched off. The ground around melon and cucumber plants, cannot be stirred too frequently, and even after the vines have run to some distance, it will be found useful to break up the ground which remains unoccupied between the hills.

Carrots.—If possible, procure European seed for this sowing, for if no accident befall them, they will last you not only through the summer, but also the fall and winter. They will not be so sightly as those sown in August, (being full of protuberances) but will eat just as well, and then you will have much less difficulty in securing a crop, for sometimes it is not easy to get a good crop in August and September. Recollect, however, that unless you have European seeds, they will all run to seed in the fall—a few may run even from European seeds, but they will be comparatively few. For the mode of preparing the ground, sowing, culture, &c., see last month.

Beets, Salsafy and Parsnip.—The main crops of these may be sown now. For directions, see last month.

Guinea Squash.—The Blue Egg plant is known among the gardeners in the neighborhood of this city, as the Guinea Squash. We have retained the name, as with us it is more generally known by the latter than the former name, although improperly so called. We would strongly recommend the seeds of this vegetable to be sown on a hot bed, in January or February. In which case they will now be fit to put out—but if the convenience of a hot bed is not to be had, then as soon as mild weather sets in, sow some seeds in a well sheltered spot, and as soon as the plants are large enough, set them out on ridges 4 feet apart, and 2 feet distant from each other, in the row. The ground should be well manured. If it be light and sandy, it will be best to plant them on the level surface.

Cabbages.—If you have any plants of the early varieties of cabbages, you may set them out at distances proportionate to their future growth, that is from 12 by 14 inches, to 2 feet by 3 feet. The late varieties do not now succeed well, for before they head, they are attacked by the cabbage lice and the green worm, which destroy them. The only variety which can resist these, is the Green Glaze. Sow seeds of the Green Glazed variety for the summer and fall crop. It is useless to sow any of the finer varieties, for the reasons set forth above.

Cauliflowers and Brocoli.—If you have plants of the early varieties, you may set them out, but you will be rarely repaid for your labor. Towards the last of this month, seeds may be sown for the autumnal crop, though the next month is perhaps better.

New Zealand Spinage.—This plant differs entirely from the common varieties cultivated in our gardens, being a vine, (the large leaves of which only are used) and standing the greatest heat of our climate. Nor do the leaves at all resemble the common spinage, in shape or appearance, but the flavor is very similar. It requires a longer boiling to render it fit for the table. To cultivate it, prepare small hills 3 feet apart, on which plant 3 or 4 seeds. If the ground is rich, a few hills will supply a large family.

Snap Beans.—Both the bush and the climbing varieties can now be planted. Let the first be planted in rows 2 feet apart, and leave the plants from 4 to 6 inches apart. The running beans can be planted either in hills 4 feet apart, or around corn. In the first mode, stakes, about 8 feet long, should be provided for them to run on. We would prefer the latter mode, as they do little or no injury to the corn, and a double crop is in this way secured.

Civie, or small Lima Bean.—We prefer the small variety of the Lima bean to the large. This has obtained the name of Civie bean among us, which name we have retained. They should be cultivated exactly like the running snap beans.

Swiss Chard.—This is a variety of Beet, of which the midribs of the leaves alone are used. These are very wide, white and tender. Boiled in a little salt and water, and eaten with drawn butter, they are very good. They are cultivated like the other varieties of Beets, only you do not pull them up, when they are wanted, but merely strip off as many of the outer leaves as are needed.

Turnips.—If a successional crop of these are required, a few of the early Dutch may be sown in the early part of the month, but they are not likely to come to much.

Lettuce.—This vegetable can scarcely be got good, from seed sown now, as they soon run. If disposed to attempt it, select a low, cool, but well drained spot, and sow the seeds where the plants are to remain. It will not do to transplant them at this season.

Peppers.—Seeds of the different varieties may be sown in the early part of this month, and transplanted out as soon as large enough.

Radishes.—Sow some of these every three weeks, in order to have them tender and crisp.

Leeks and Onions.—Seeds of these vegetables may now be sown, to be put out as soon as large enough, which will not however be for some time, as they are of slow growth.

Corn.—Some of the early varieties of corn may be sown now, and if our common variety of flint can be sown at the same time, they will succeed the early variety.

Cushaws and Pumpkins.—These are rarely planted in the garden, but should they be required, they may be planted in hills 8 feet apart, and one or two plants only left in each. They should be well manured. They may be planted among the corn.

Herbs.—Seeds of Thyme, Parsley, Sweet and Pot Marjoran, Sweet Basil, &c., may now be sown. Plants may also be taken up, divided, and again set out.